

### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-1163

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/20/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 12/14/2011 07:50 Date/Time Received: 12/15/2011 15:30

Source Name: DCNPP / December 2011

Site Name: Diablo Canyon NPP R Number: R 92710

Sample Type: Seawater

Sample ID

**Sampling Point** 

**Method** 

**Parameter** 

Result ± CE

MDA95

Units

N11-1163-001

Qurfall-Water

K-40

338 ± 17.5

out fall

EPA 901.1

59.5

pCi/L

1. Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPL	EANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	Date Received Lab No. (Leave Blank)
Richmond, CA 94804	12-15-11 111-1163
510-620-2911	Date & Time Sampled Serial Number
Collector Information	12/14/11 0750 R 92710
La company to the company of the com	Reporting Information Name:
Dept./Branch: 1011 HOOK	Dept./Branch:
Name: Dept./Branch: F.O. BOX 56 Address: AULA REACH, CA 93424	Address:
Telephone No.: (%) 51/5-4409 Sample Information	Telephone No.:
System Name / Facility: DCPP DUTFALL	Billing Agency
Sampling Point (s):	DWFPB RHB RWQCB() DTSC DWTPB FDB DWR CDEG
$\Delta UT$	☐ DWTPB ☐ FDB ☐ DWR ☐ CDFG ☐ EMB ☐ Other (Specify)
System No.:	- Civib G Other (Specily)
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater	Surface Water
☐ Raw ☐ Water Treatment Plant (WTP)	Distribution System Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Did	oxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	
Finishing:	— Judgo (John John Junio)
and the control of th	G Soli/Sedifferit
Starting:	Wipes □ Biota (Type):
Net (M³)	Radon Canister
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions etc.):	
COMMENTS: (Cautions, etc.):  ☐ Field Treatment: Preservatives added:	Ced/Frozen: Other:
	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory app	rowal)
ANALYSIS REQUESTED (For questions, please call 510-620-2911	1)
☐ Gross Alpha ☐ Gross Bet	ta 🗓 Gamma Scan
☐ Total Üranium ☐ Total Beta	
☐ Total Radium ☐ Tritium (³)	
☐ Radium-226 ☐ Carbon-14	province of the contract
Radium-228	- restaple i latoritatii
Radon-222 Strontium	3
Other (Specify); Nickel-63	
CHAIN OF QUSTODY	☐ Iron-55
Date   Name (Print)	n / / / / / / / / / / / / / / / / / / /
	1200
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	
	Date
Time Custody Received Organization	Signature Time Custody Released
Date 19-13 Name (Print)	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
- 2120 DIA DILIDI B	Date Date
Time Gustody Received Organization	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank)	CAST 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
. Condition at Time of Receipt:	
Acceptable	D Leaked in Transit D Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled	Insufficient Sample
Preservatives/Carriers:	** · · · · · · · · · · · · · · · · · ·
☐ Added While Sampling ☐ Added in Laboratory **	Not Added D Not Applicable



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. N11-1162

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 01/04/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Site Name: Diablo Canyon NPP

Collector's Name: Tom Hook

Date/Time Collected: 12/14/2011 07:50 Date/Time Received: 12/15/2011 07:50

Source Name: DCNPP / December 2011

**R Number:** R 92697

Sample Type: Seawater

Sample ID

Sampling Point

**Method** 

<u>Parameter</u>

Result ± CE

MDA95

Units

N11-1162-001

Outfall Water

EPA 906.0

Tritium

-24.5 ± 129

223

pCi/L

1. Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPL	LEANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804	12-15-2011   1111-1167
510-620-2911	Date & Time Sampled Serial Number
010-020-2011	112/14/11 0750 R 92697
Collector Information	Reporting Information
Name: Ton Hook	Name:
Dept./Branch:	Dept./Branch:
Dept./Branch: Address: AULA EFACI, CA 93424	Address:
Telephone No.: (80+) \$15-4409	Telephone No.:
Sample Information	Telephone No.: Billing Agency
System Name / Facility: / ) (IF ) (TAIL)	
Sampling Point (s):	DWFOB() RHB RWQCB() DTSC DWTPB DFDB DWR DCDFG
System No.:	☐ EMB ☐ Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment Plant (WTP	Surface Water
	P) U Distribution System
	Oxide / Ozonated / Peroxizone / Fluondated / Coagulated / pH Adjusted
Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	☐ Milk ☐ Soil/Sediment
Starting:	
Net (M³)	
Air Charcoal Cartridge	Radon Canister Other: TATION SHIPLE
COMMENTS: (Cautions, etc.):	
Field Treatment: Preservatives added:	led/Frozen: Other:
Field Measurement:mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory app	Droval)
NALYSIS REQUESTED (For questions, please call 510-620-291	
- 0,000 50	
— Total Dete	
—	and the state of t
Radium-226	The state of the s
Radium-228	1 sotopic Thorium
Radon-222 Strontium	-89_90
Other (Specify); Nickel-63	□ Iron-55
HAIN OF CUSTODY	
Date Prof.	12/4/11
Date 9 Name (Print)	Date
Time Custody Received Organization	Signature / Time Custody Released
	Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
12-15-11	Signature Time Custody Released
Date Name (Print)	Date Date
Time Custody Received Organization	- / Julona M. Oli
	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank)  Condition at Time of Receipt:	1. MR/110
Condition at Time of Receipt:	
Holding Time Exceeded  Sample Not Cooled	Leaked in Transit Improper Container Insufficient Sample
Preservatives/Carriers;	The state of the s
☐ Added While Sampling ☐ Added in Laboratory	O Not Added O Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-1159

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/19/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Site Name: Diablo Canyon NPP

Collector's Name: Tom Hook

Date/Time Collected: 12/13/2011 09:12 Date/Time Received: 12/14/2011 10:30

Source Name: DCNPP / December 2011

**R Number:** R 92708

Sample Type: Drinkingwater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-1159-001	Bio Lab Sink	EPA 901.1	K-40	59.5 ± 15.9	71.7	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	REQUEST FOR SAMPLE	ANALYSIS (Radiochei	mical)	
Sanitation and Radiatio	n Laboratories Branch	P Date Received		Lab No. (Leave Blank)
850 Marina Bay Parkway Richmond, CA 94804	, G164	12-14-5	m I	1111 1160
510-620-2911		Date & Time Samp		1)   1 -   1 5 9 Serial Number
010 020 2011	general and	12/13/11 09	I -	D 02700
Collector Information		Reporting Information	12	R 92708
	HOOK	Name:		
Dept./Branch:	NY ET	Dept./Branch:		
Address:	DX 56 CEACH, CA 93424	Address:		
Telephone No.: (205)	015 (11/2)			
Sample Information	391-4409	Telephone No.:		
System Name / Facility:	BIO LAB	Billing Agency		
Sampling Point (s):	DIO CHO	DWFOB() R	DB 🗇 DMI	QCB() DTSC
	1411			CDFG
System No.:	DOOT		arci (opecity)	
TYPE OF SAMPLE (Chec	:k all applicable boxes)			1
Drinking Water	Groundwater	Surface Water	_ v	Vastewater
(C) Raw		Distribution System		oint of Use (POU)
☐ Treated (circle one): C	Chlorinated / Chloraminated / Chlorine Diox	cide / Ozonated / Peroxizor	ne / Fluoridate	d / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	3		
Finishing:		Seawater		ludge (Semi-solid Samples)
		Milk	□s	oil/Sediment
and the second s		☐ Wipes	· 🔾 8	iota (Type):
Net (M³)		Radon Canister		ther:
☐ Air Charcoal Cartridge				
COMMENTS: (Cardiana	-A		······································	
COMMENTS: (Cautions,	<b>β(C.)</b> :	<del> </del>	4.4	and the state of the
	servatives added:	ced/Frozen:	Other:	
☐ Field Measurement: _	mR/hr	Radionuclide(s), if kno	wn:	
→ Rush/Priority (should be)	e prearranged and have supervisory appro	val)		
ANALYSIS REQUESTED	(For questions, please call 510-620-2911)			
Gross Alpha				
☐ Total Uranium	☐ Gross Beta	1	amma Scan	
Total Radium	☐ Total Beta (		IORM (Gamma	•
	☐ Tritium (³H)	⊈ □ Is	otopic Americ	ium / Curium
Radium-226	☐ Carbon-14	🗓 ls	otopic Plutoni	um
Radium-228	☐ lodine-131		otopic Thoriur	n
Radon-222	☐ Strontium-8	9, 90 □ ls	otopic Uraniui	<b>n</b> a a sa
Other (Specify);	Nickel-63	□ Ire	on-55	
HAIN OF CUSTODY		2. St. 70. Sec.		
2/3/11	Tontook			12/12/11
Date	Name (Print)			Date
Time Custody Received	Organization	Signature		1700
		Organical		Time Custody Released
Date	Name (Print)			Date
Time Custody Received	Organization	Size -A.		
12-14.11	1/ A	Signature		Time Custody Released
Date	Name (Print)			Date
Time Custody Received	Omorination PWRIB	1 Tulous	malle	
Time Custody Received	Organization	Signature	110.	Time Custody Released
ABORATORY REMARKS	(Leave Blank)			
<ul> <li>Condition at Time of Rec</li> </ul>	elpt: /			
☐ Acceptable ☐ Holding Time Exceed	Broken Container  Sample Not Cooled	Leaked in Transit		Improper Container
	led	Insufficient Sample	mallan	
Preservatives/Carriers:  Added While Samplin				
- veges with samplif	19 G Added in Laboratory	☐ Not Added	n en en en en	Not Applicable



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-1160

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 01/04/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Site Name: Diablo Canyon NPP

Collector's Name: Tom Hook

Date/Time Collected: 12/13/2011 10:30 Date/Time Received: 12/14/2011 10:30

Source Name: DCNPP / December 2011

R Number: R 92700

Sample Type: Drinkingwater

Sample ID

Sampling Point

<u>Method</u>

**Parameter** 

Result ± CE

MDA95

**Units** 

N11-1160-001

Bio Lab Sink

EPA 906.0

Tritium

-28.0 ± 129

223

pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	Date Received	Lab No. (Leave Blank)  N11-11 (p1)
Richmond, CA 94804 510-620-2911	Date & Time Sampled	Serial Number
310-020-2911	12/13/11-0912	R 92700
Collector Information	Reporting Information	
Name: Tou Hook	Name:	
Name: Tom Hook Dept./Branch: P.O. BIX 51 Address: AVILA BRACH, CA 93424	Dept./Branch: Address:	
AVIA BEACH, CA 1969	eudiess.	
	elephone No.:	
	Billing Agency	
System Name / Facility: BID LAB Sampling Point (s):		RWQCB() DTSC DWR DCDFG
$\lambda_{M}$	☐ EMB ☐ Other (Spec	
System No.:		"37
TYPE OF SAMPLE (Check all applicable boxes)		of the second se
Drinking Water Groundwater	Surface Water	Wastewater
Water Treatment Plant (WTP)		Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	de / Ozonated / Peroxizone / Fluoric	Jated / Coagulated / pri Adjuste
☐ Air Filters Date/Time	Seawater C	Sludge (Semi-solid Samples)
Finishing:	Milk	Soil/Sediment
Starting:	Wipes C	Biota (Type):
Net (M³)	Radon Canister 5	Other: TRITICH SHPICE
☐ Air Charcoal Cartridge		
COMMENTS: (Cautions, etc.):		
	ced/Frozen: Oth	ner:
	Radionuclide(s), if known:	IVI.
Rush/Priority (should be prearranged and have supervisory appro		
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	<u>*</u>	
☐ Gross Alpha ☐ Gross Beta		
☐ Total Uranium ☐ Total Beta (		
☐ Total Radium ☐ Tritium (³H)		nericium\ Curium
Radium-226 Carbon-14	☐ Isotopic Plu	
Radium-228  lodine-131		
Radon-222 Strontium-8		anium
Other (Specify); Nickel-63	☐ Iron-55	
CHAIN OF CUSTODY		12/12/11
Date Name (Print)		Date
0912 9626	7/4/	
Time Custody Received Organization	Senature: //	Time Custody Released
Date Name (Print)		Date
Time Custody Received Organization	Signature	Time Custody Released
1. 12-14-11 1/A	A Company of the Comp	
Date Name (Print)	29 1 04 04	Date
Time Custody Received Organization	Signature Signature	Time Custody Released
		Time Outlood, 1.000000
ABORATORY REMARKS (Leave Blank) L. Condition at Time of Receipt:		
☐ Acceptable ☐ ☐ Broken Container	Leaked in Transit	☐ Improper Container
□ Holding Time Exceeded → □ Sample Not Cooled	Insufficient Sample	
l. Preservatives/Carriers;		



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-1157

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/19/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

R Number: R 92711

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 12/13/2011 08:56 Date/Time Received: 12/14/2011 10:30

Site Name: Diablo Canyon NPP

Source Name: DCNPP / December 2011 Sample Type: Surface Water

Sample ID

Sampling Point

**Method** 

**Parameter** 

Result ± CE

MDA95

Units

19.0 ± 12.9

60.0

N11-1157-001

Diablo Creek

EPA 901.1

K-40

pCi/L

Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

Sanitation and Radiation Laboratories Branch	Date Regeived	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164		111 1167
Richmond, CA 94804	Date & Time Sampled	Serial Number
510-620-2911	12/13/11 0856	R 92711
	Reporting Information	
	Name:	and the second
Address: P.D.Box 57	Dept./Branch: Address:	
AULA SEALL, CA 73464	Muliess.	
	Telephone No.:	
Sample Information	Billing Agency	
Sampling Point (c):		VQCB() DTSC
	☐ DWTPB ☐ FDB ☐ DV ☐ EMB ☐ Other (Specifi	
System No	☐ EMB ☐ Other (Specify	0:
TYPE OF SAMPLE (Check all applicable boxes)		
Drinking Water Groundwater Water Treatment Plant (WTP)	Surface Water	Wastewater
- '' '' '' '' '' '' '' '' '' '' '' '' ''	☐ Distribution System  ☐	Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxid	de / Ozonated / Peroxizone / Fluorida	ted / Coagulated / pH Adjusted
Air Filters Date/Time	☐ Seawater ☐	Sludge (Semi-solid Samples)
Finishing:	4	Soil/Sediment
Starting:		Biota (Type):
Net (M <sup>3</sup> )		0.1
Air Charcoal Cartridge	Tradon Carnotei	Otner:
OMMENTS: (Cautions, etc.):		<u>r var verske greker i skrivet</u> market <del>gre</del> keter
	ed/Frozen: Other	
l Field Measurement:mR/hr	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory appro	al) in the second of the secon	
NALYSIS REQUESTED (For questions, please call 510-620-2911)		
Gross Alpha Gross Beta	Gamma Scar	) 1
Total Uranium 🔲 Total Beta (🖢		
I Total Radium ☐ Tritium (³H)	,	ricium / Curium
Radium-226		
Radium-228 🔲 lodine-131	— .00topio i iato	
Radon-222 Strontium-89		
Other (Specify);	□ Iron-55	
HAIN OF, CUŞTODY		
12/13/11 Tim 1/00/		12/13/11
Date Name (Print)		Date
Time Custody Received Organization	Signature	1700
er <u>- Andrea Grand (d. 1888)</u> er <u>Andrea Grand (d. 1888)</u> er <u>andrea Grand (d. 1888)</u> er	Miliarui C	Time Custody Released
Date Name (Print)		Date
Time Custody Received Organization	Signature	Time Custedy Released
17-14-11 (18		
Date Name (Print)	1) 1- 14 00	Date
	Signature Signature	Time Custody Released
Time Custody Received Organization	/'B''	TITLE CUSTOMY (Verensey
Time Custody Received Organization  S  ABORATORY REMARKS (Leave Blank)  Condition at Time of Receipt:		
ABORATORY REMARKS (Leave Blank)  Condition at Time of Receipt:  Acceptable Broken Container	J Leaked in Transit	/ Improper Container



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-1158

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 01/04/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Date/Time Collected: 12/13/2011 08:56 Date/Time Received: 12/14/2011 10:30

Site Name: Diablo Canvon NPP

Source Name: DCNPP / December 2011

R Number: R 92696

Sample Type: Surface Water

Sample ID

Sampling Point

Method

**Parameter** Result ± CE MDA95 **Units** N11-1158-001 Diablo Creek EPA 906.0 Tritium -52.4 ± 129 223 pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

State of California - Health and Welfare Agency

the state of the s	<b>SAMPLE ANALYSIS</b> (Ra		
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	12 /14	eceived	Lab No. (Leave Blank)
Richmond, CA 94804 510-620-2911	346. T 1	ne Sampled	Serial Númber R 92696
Collector Information	Reporting Infor		N 32030
lame: Dept./Branch: Po Box 56 AULA BEACH, CA: 93424	Name: Dept./Branch: Address:		
electione No.: 1805) 545_440	elephone No.:		
Sample Information	Billing Agency		
System Name / Facility: DIABLO CAFEK	DWFOB()		VQCB() DTSC
Sampling Point (s): 552	DWTPB	G FDB G DV	
System No.:	<b>□</b> EMB	☐ Other (Specify	" <del> </del>
TYPE OF SAMPLE (Check all applicable boxes)			
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Pla	Surface Wate Distribution S	ystem 🚨	Wastewater Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Ch	lorine Dioxide / Ozonated / I	Peroxizone / Fluorida	ited / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:	Milk		Soil/Sediment
Starting:	Wipes		Biota (Type):
Net (M³)	- Radon Canist		Other: THTUM SHAPLE
Air Charcoal Cartridge	Tradon Came	7	Other Therese
a All Orlandea Carthage			
COMMENTS: (Cautions, etc.):			
☐ Field Treatment: Preservatives added:	ced/Frozen:	Othe	
☐ Field Measurement:mR/h	r Radionuclide	(s), if known:	
Rush/Priority (should be prearranged and have superv	isory approval)		
ANALYSIS REQUESTED (For questions, please call 510	620-2911)		
☐ Gross Alpha	Gross Beta	☐ Gamma Sca	n
	Total Beta (LSC)	☐ NORM (Gam	
	Tritium ( <sup>3</sup> H)	☐ Isotopic Ame	
	Carbon-14	☐ Isotopic Plut	
	odine-131	☐ Isotopic Tho	
	Strontium-8 <b>9</b> , 90	☐ Isotopic Urar	
현실 하다 전 이 전 기가 없다는 사람들은 사람들이 되었다.		☐ Iron-55	
	Nickel-63	<b>G</b> 11011-55	
CHAIN OF CUSTODY			12/8/11
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1856 86.6	- 13 mg		
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Date Name (Print)			
Time Custody Received Organization	Signature		Time Custody Released
Date Name (Print)			Date
Date Name (Print)	AJ.	Torra M. Ol.	Date
Time Custody Received Organization	Signature	www.pp. xxx	Time Custody Released
ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt:	1 1 3K.		
.   Acceptable  Broken Containe			☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cool	ed , D Insufficient S	ample .	
. Preservatives/Carriers:	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Added While Sampling	ory Q Not Added		Not Applicable



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. N11-1079

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/12/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

R Number: 92602

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook Site Name: Diablo Canyon NPP

Date/Time Collected: 11/15/2011 08:37 Date/Time Received: 11/16/2011 09:30 Source Name: DCNPP / November 2011

Sample Type: Drinkingwater

**Sampling Point** 

Method

<u>Parameter</u>

Sample ID Result ± CE MDA95 Units N11-1079-001 Bio Lab Sink EPA 901.1 K-40 17.2 ± 17.0 79.4 pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REC	QUEST FOR SAMPLE	ANALYSIS (Radio	ochemical)	
Sanitation and Radiation Laboratories B 850 Marina Bay Parkway, G164 Richmond, CA 94804	ranch	Date Rec	,	Lab No. (Leave Blank)  N11- \ 07-9
510-620-2911		Date & Time	•	<sup>1</sup> Serial Number
		11/15/11		R 92602
Collector Information  Name: Town Hook  Dept./Branch: P.O. BOX Sto  Address: AULA BLACAL, CA 93	3424	Reporting Informa Name: Dept./Branch: Address:	ition	
elephone No/XDS/ZUX -UVDS		Telephone No.:		
Sample Information System Name / Facility: BIO LAE Sampling Point (s):  DW1.	2	Billing Agency D DWFOB() D DWTPB D EMB	☐ RHB ☐ R\ ☐ FDB ☐ D\	WQCB() DTSC WR DCDFG y)
YPE OF SAMPLE (Check all applicable be	oxes)			
Drinking Water Groun	dwater Treatment Plant (WTP)		em 🛄	Wastewater Point of Use (POU)
<del></del>	anniated / Chlorine Diox	100	OXIZONE / Fluorida	ited / Coagulated / pH Adjuste
Air Filters Finishing:	Date/Time	☐ Seawater		Sludge (Semi-solid Samples)
	<u>*</u>	Milk		Soil/Sediment
Starting:		1 Wipes		Biota (Type):
Net (M³)		Radon Canister		Other:
Air Charcoal Cartridge				
OMMENTS: (Cautions, etc.):				
Field Treatment: Preservatives added	///	ced/Frozen:	Othe	r:
Field Measurement:	mR/hr	Radionuclide(s),	if known	
Rush/Priority (should be prearranged and		val)	ii kilowii.	
NALYSIS REQUESTED (For questions, pl				
Gross Alpha	☐ Gross Beta		☐ Gamma Scar	
Total Uranium	☐ Jotal Beta (	Y -	☐ NORM (Gam	
Total Radium	☐ Tritium ( <sup>3</sup> H)		Isotopic Ame	
Radium-226	☐ Carbon-14		☐ Isotopic Ame	
Radium-228	□ lodine-131	in the	☐ Isotopic Flut	\rac{1}{2}
Radon-222	☐ Strontium-89	÷ ·	Isotopic Uran	
Other (Specify);	Nickel-63		☐ Iron-55	
IAIN OF CUSTODY			G #00-00	
Date Name (Print)	<b>~</b>	1/0/		Date / 700
Time Custody Received Organization		Signature //	8	Time Custody Released
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Date Name (Print)			-04-7	Date
Time Custody Received Organization	WK L D	Signature )	w Mala	Time Custody Released
	6 0.01 M	P/HR D Leaked in Transit		<b>4</b>
☐ Holding Time Exceeded ☐ Sa	mple Not Coaled	Insufficient Samp		Improper Container
Preservatives/Carriers:   Added While Sampling  Ad	ded in Laboratory $f_{\mathbf{t}}$	i DNot Added		Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-1080

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 01/04/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 11/15/2011 08:37 Date/Time Received: 11/16/2011 09:30

Site Name: Diablo Canyon NPP

Source Name: DCNPP / November 2011

R Number: 92593

Sample Type: Drinkingwater

Sample ID

**Sampling Point** 

Method

**Parameter** 

Result ± CE MDA95 **Units** N11-1080-001 Bio Lab Sink EPA 906.0 Tritium -29.7 ± 129 223 pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	Date Received	Lab No. (Leave Blank)  (1) 1 - 1 080
Richmond, CA 94804	Date & Time Sampled	(V) -
510-620-2911	11/15/11 0837	R 92593
Collector Information	Reporting Information	
Name: Ton Hook Dept/Branch: 15 1 570	Dept./Branch:	
Name: Tou Hack Dept./Branch: P.D. BUX Sto Address: AULA BEACIL, CA 93424	Address:	
Telephone No.: 1905) 575-4409	l'clephone No	
Sample Information System Name / Facility: B/D LAB	Billing Agency	
System Name / Facility: 15/0 LAHS Sampling Point (s):		RWQCB() DTSC DWR DCDFG
DW1	D DWTPB D FDB D Other (Spe	
System No.:	, and	
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	7	☐ Wastewatër ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	ide / Ozonated / Peroxizone / Fluo	oridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	☐ Seawater	☐ Sludge (Semi-solid Samples)
Finishing:	Milk	☐ Soil/Sediment
Starting:	<b>☑</b> Wipes	☐ Biota (Type):
Net (M³)	Radon Canister	Or Other: THINK SAMAE
☐ Air Charcoal Cartridge		7 Same Harring Contraction
COMMENTS: (Cautions, etc.):    Field Treatment: Preservatives added:	ced/Frozen:C Radionuclide(s), if known:	Other:
ANALYSIS REQUESTED (For questions, please call 510-620-2911)		
☐ Gross Alpha ☐ Gross Beta		Scan
☐ Total Uranium ☐ Total Beta	30	Gamma)
☐ Total Radium ☐ Tritium (³H)	☐ Isotopic /	Americium / Curium
☐ Radium-226 ☐ Carbon-14	1 <b>3</b> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Plutonium
☐ Radium-228 ☐ Iodine-131	M-	Thorium
☐ Radon-222 ☐ Strontium-8	59, 90 ☐ Isotopic l	Uranium 🐇
☐ Other (Specify); ☐ Nickel-63	/ 🚨 Iron-55	
CHAIN OF CUSTODY		uliela
1. ///S/// Tone throw Name (Print)		Date
0837 16ek	- Pour land	1700
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Date Name (Print)		Date
Time Custody Received \ Organization	Signature	Time Custody Released
3. Date (1/6 1)		
Date (1977) Name (Print)	17.12.0110	Date /
Time Custody Received Organization	Signature ( Signature )	Time Custody Released
LABORATORY REMARKS (Leave Blank)	+ODINR/LIR	
A. Condition at Time of Receipt:  Acceptable  Broken Container	□ Leaked in Transit	☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled	D Insufficient Sample	a improper container
B. Preservatives/Carriers:	□ Not Added	Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-1077

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/02/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Site Name: Diablo Canyon NPP

Source Name: DCNPP / November 2011

R Number: 92596

Sample Type: Surface Water

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-1077-001	Diablo Creek	EPA 901.1	K-40	13.7 ± 13.0	60.3	pCi/L

for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors

Sanitation and Radiation Laboratories Branch	LE ANALYSIS (Radiochemical)	
850 Marina Bay Parkway, G164	Date Received	Lab No. (Leave Blank)
Richmond, CA 94804	1,1,1	1-N11 1173
510-620-2911	Date & Time Sampled	+ 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1
	11/15/11-08/5	Serial Number
Collector Information	Reporting Information	⊥ R 92596
Name:	Name:	
Dept./Branch: 104/Hook	Dept./Branch:	
Address: P.O. Box 56 AUILA BEACH, CA 93424	Address:	
Telephone No.: /20-) 2/K - 4409		
Sample Information	Telephone No.:	
System Name / Facility: DI ABLO CALFAL	Billing Agency	
Sampling Point (s):	DWFOB() RHB	RWQCB() DTSC
$\mathcal{L}\mathcal{C}\mathcal{D}$	D DWTPB	DWR D CDEC
System No.:	EMB Other (Spe	cify)
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Croundwater ☐ Groundwater ☐ Raw ☐ Water Treatment Plant (ACT)	Surface Water	⊒ Wastewater
Raw Water Treatment Plant (WTF		Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine Di	oxide / Ozonated / Peroxizone / Fluori	dated / Coagulated / pH Adjusted
☐ Air Filters Date/Time		**************************************
Finishing:		Sludge (Semi-solid Samples)
Starting:	Milk	☐ Soil/Sediment
	THE LAC	
Net (M³)	Radon Canister	Biota (Type):
Air Charcoal Cartridge	Tagon Carnster	Other:
COMPANY		
COMMENTS: (Cautions, etc.):		
☐ Field Treatment: Preservatives added:	ced/Frozen: Oth	
☐ Field Measurement:mR/hr	Dedianal L	er:
☐ Rush/Priority (should be prearranged and have supervisory app	Radionuclide(s), if known:	
ANALYSIS DECLESORS ANALYSIS DECLESORS APPLICATION OF THE PROPERTY OF THE PROPE	royal)	
ANALYSIS REQUESTED (For questions, please call 510-620-2911		
☐ Gross Alpha		
☐ Total Uranium ☐ Total Beta	Jannia ota	
	_ nonin loar	
☐ Radium-226		ericium / Curium
☐ Carbon-14 ☐ Radium-228	☐ Isotopic Plut	onium
Paden 222	☐ Isotonic The	
→ Strontilim-	89, 90 🔲 Isotopic Urai	
Other (Specify);	— isotopic Grai	nun
CHAIN OF, CUSTODY	☐ Iron-55	
1. 11/15/11 _ Tou Hand		
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Time Custody Received Organization  2.	Signature	- <u>1700</u>
Date Name (Print)		Time Custody Released
		Date
Time Custody Received Organization	Signature	
3	y Gradule	Time Custody Released
Date Q 30 Name (Print)		
Time Custody Received Organization	- Willama Wal	Date
	Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank)		TITLE CUSTOMY Released
A Solitation at time of Receipt:	<b>**</b>	
Broken Container	☐ Leaked in Transit	
	Insufficient Sample	Improper Container .
B. Preservatives/Carriers:		Commence of the contract of th
☐ Added While Sampling ☐ Added in Laboratory	O Not Added	<u>.</u>
Lab 803 (11/07)		O Not Applicable



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-1078

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 01/04/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 11/15/2011 08:15 Date/Time Received: 11/16/2011 09:30 Source Name: DCNPP / November 2011

Site Name: Diablo Canyon NPP R Number: 92592

Sample Type: Surface Water

Sample ID

Sampling Point

**Method** 

**Parameter** 

Result ± CE

MDA95

<u>Units</u>

N11-1078-001

Diablo Creek

EPA 906.0

Tritium

112 ± 133

223

pCi/L

Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

Not Applicable

REQUEST FOR SAMPLE ANALYSIS (Radiochemical) Lab No. (Leave Blank) Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 Time Sampled Date\& 510-620-2911 12814 Reporting Information Collector Information Name: Name: Dept./Branch: Dept./Branch: Address: Address: elephone No.: Telephone No.: / XO Sample Information **Billing Agency** System Name / Facility: ☐ RWQCB() DWFOB() DTSC ☐ RHB Sampling Point (s): □ DWR DWTPB ☐ FDB CDFG Other (Specify) D EMB System No.: TYPE OF SAMPLE (Check all applicable boxes) ☐ Drinking Water ☐ Raw Groundwater
Water Treatment Plant (WTP)
Surface Water
Distribution System □ Wastewater□ Point of Use (POU) Raw Treated (circle one): Chlorinated / Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater ☐ Sludge (Semi-solid Samples) Finishing: Milk □ Soil/Sediment Starting: Wipes ☐ Biota (Type): Net (M<sup>3</sup>) Radon Canister Other: TRITICH SAMOLE ☐ Air Charcoal Cartridge **COMMENTS:** (Cautions, etc.): ced/Frozen: ☐ Field Treatment: Preservatives added: Other: Radionuclide(s), if known: ☐ Field Measurement: mR/hr Rush/Priority (should be prearranged and have supervisory approval) ANALYSIS REQUESTED (For questions, please call 510-620-2911) ☐ Gross Alpha Gross Beta Gamma Scan ☐ Total Beta (LSC) ☐ Total Uranium ■ NORM (Gamma) ☐ Tritium (³日) □ Total Radium ☐ Isotopic Americium / Curium ☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium ☐ Radium-228 ☐ lodine-131 ☐ Isotopic Thorium Radon-222 ☐ Strontium-89. 90 Isotopic Uranium Other (Specify); ☐ Nickel-63 ☐ Iron-55 CHAIN OF CUSTODY Name (Print) Date Time Custody Receiv Organization Time Custody Released 2. Name (Print) Date Time Custody Received Organization Signature Time Custody Released 3. Name (Print) 2 Time Custody Received Organization Time Custody Released LABORATORY REMARKS (Leave Blank) **Condition at Time of Receipt:** Acceptable **Broken Container** Improper Container

Not Added

Holding Time Exceeded

Preservatives/Carriers: Added While Sampling Sample Not Cooled

Added in Laboratory



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-1068

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/02/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Orlando Sabi Site Name: Diablo Canvon NPP

Date/Time Collected: 11/14/2011 07:40 Date/Time Received: 11/15/2011 10:30

Source Name: DCNPP / November 2011

R Number: 92564

Sample Type: Seawater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-1068-001	Outfall Water	EPA 901.1	K-40	346 ± 23.4	86.9	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

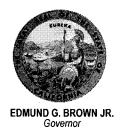
<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	AMPLE ANALYSIS (R		
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164		Received 15 II	Lab No. (Leave Blank)  N// - 1 () 68
Richmond, CA 94804	Date & T	ime Sampled	Serial Number
510-620-2911	11/14/11	0740	R 92564
Collector Information	Reporting Info	rmation	
Name: ONLANDO SABI	Name: Dept./Branch:		
Name: OALANO SABI Dept./Branch: P.O.BOX 56 Address: AVILA BEACH, CA. 93424	Address:		
Telephone No.: (805) 545-4415	Telephone No.: Billing Agency		
Sample Information System Name / Facility: DCPP Out FALL	D DWFOB ( )		WQCB() DTSC
	DWTPB		WR D CDFG
Sampling Point (s): OUT	☐ EMB	Other (Specifical)	fy)
System No.:			
TYPE OF SAMPLE (Check all applicable boxes)	Surface Wa	tar 🗇	l Wastewater
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plan	t (WTP) 🚨 Distribution	System	Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorinated / Chl			
☐ Air Filters Date/Time	Seawater		Sludge (Semi-solid Samples)
-Finishing:	Milk		Soil/Sediment
-Starting:	Wipes		Biota (Type):
Net (M <sup>3</sup> )	Radon Cani		Other:
☐ Air Charcoal Cartridge	*		
COMMENTS: (Cautions, etc.):  ☐ Field Treatment; Preservatives added:			
☐ Field Treatment; Preservatives added:	/ 4ced/Frozen: _	Oth	er:
☐ Field Measurement:mR/hr	Radionuclid	le(s), if known:	
Rush/Priority (should be prearranged and have supervise			
ANALYSIS REQUESTED (For questions, please call 510-6	A.		
7	ross Beta	Gamma Sc	
— 10ta: 01a::::::::::::::::::::::::::::::::::	otal Beta (ESC)	NORM (Ga	
	ritium ( <sup>3</sup> H)	· ·	nericium / Curium
	arbon-14	☐ Isotopic Plu	
	odine-131 🏄	☐ Isotopic The	
	trontium-89, 90	☐ Isotopic Ura	anium
	ickel-63	☐ Iron-55	
CHAIN OF CUSTODY  1. 11/14/17 ORLAND SAB!		<b>`</b>	ululu
1. Marie (Print)		SOO	Date
0740 PG+5			Time Custody Released
Time Custody Received Organization 2.	Signature		
Date Name (Print)			Date
Time Custody Received Organization	Signature		Time Custody Released
3. Date Name (Print)		4	Date
10:30 DWRLV	3 - A	woon M.	
Time Custody Received Organization	Signature		Time Custody Released
LABORATORY REMARKS (Leave Blank)  A. Condition at Time of Receipt:			
☐ Acceptable ☐ Broken Container			☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Coole	id 🗀 Insufficient	t Sample	
B. Preservatives/Carriers:	orv 🗀 Not Added		☐ Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-1069

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 01/04/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Orlando Sabi Site Name: Diablo Canyon NPP

Date/Time Collected: 11/14/2011 07:40 Date/Time Received: 11/15/2011 10:30

Source Name: DCNPP / November 2011

R Number: 92557 Sample Type: Seawater

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-1069-001
 Outfall Water
 EPA 906.0
 Tritium
 80.4 ± 132
 223
 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors.

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

State of California - Health and Welfare Agency	California Department of Public Health
REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	111511 W11-1067
Richmond, CA 94804 510-620-2911	Date & Time Sampled Serial Number
310-020-2911	11/14/11 0740 R 92557
Collector Information	Reporting Information
Name: Fra AAD SAR	Name:
Dept./Branch: P.D. BOX 56 Address: AVILA BEACH, CA. 934/24	Dept/Branch:
	audics.
Telephone No. (205) 545 - 44-15	Telephone No.:
Sample Information	Silling Agency
System Name / Facility: Sampling Point (s):	D DWFOB() D RHB RWQCB() D DTSQ DWTPB D FDB D DWR D CDFG
Sampling Point (s):	DEMB Other (Specify)
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
	Surface Water
Raw Water Treatment Plant (WTP)	
Treated (circle one): Chlorinated / Chlorinated / Chlorine Diox	de / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	Milk Soil/Sediment
Starting:	■ Wipes □ Biota (Type):
Net (M³)	Radon Canister Other: Terral 20TTLS
☐ Air Charcoal Cartridge	
The Origination Cardinage	
COMMENTS: (Cautions, etc.):	
Field Treatment: Preservatives added:	od/Frozen: Other:
☐ Field Measurement:mR/hr/	Radiorluclide(s), if known:
Rush/Priority (should be prearranged and have supervisory appro	oval)
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
☐ Gross Alpha ☐ Gross Beta	☐ Gamma Scan
☐ Total Uranium ☐ Total Beta	· 黃리 하는 주장 보고 있다. 그러지
☐ Total Radium ☐ Tritium (³H	
☐ Radium-226 ☐ Carbon-14	☐ Isotopic Plutonium
☐ Radium-228 ( ☐ lodine-131	☐ Isotopic Thorium
☐ Radon-222 ☐ Strontium-	39, 90 🚨 Isotopic Uranium
Other (Specify); Nickel-63	☐ Iron-55
CHAIN OF CUSTODY	
1. W/W/II . ( ) DIAMO DAR!	~ / / ////////////////////////////////
Date Name (Print)	Date 1700
Time Custody Received Organization	Signaphre Time Cultody Released
2.	
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
3	
Date Name (Print)	19.1 Mal Date
Time Custody Received Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank)	
A. Condition at Time of Receipt:	
Acceptable	O Leaked in Transit
D. Holding Time Everaded D. Camala Nat Casted	T) Incofficient Comple
B. Preservatives/Carriers:	U Insufficient Sample



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0985

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Site Name: Diablo Canyon NPP

Collector's Name: Tom Hook

Date/Time Collected: 10/19/2011 09:44 Date/Time Received: 10/20/2011 09:50

Source Name: DCNPP / October 2011

**R Number:** R 92565

Sample Type: Surface Water

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0985-001	Diablo Creek	EPA 901.1	K-40	28.7 ± 13.2	60.6	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors

	R SAMPLE ANA	alysis (f	(adiochemicai) 💎	
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164		4.00	Received	Lab No. (Leave Blank)
Richmond, CA 94804			20/11	LU NII- 0985
510-620-2911	3	, ,	Time Sampled	Serial Number
			1- 0944	L R 92565 ∣
Collector Information	Rep	orting info	rmation	
Name: Total Hook	Nam			
Name: Tom Hook Dept./Branch: P.O. BOX 5 (6) Address: ANLA BEACH, CA 93424		t./Branch: ress:		
AVICA CHACILLON 17427	1	1033.		
Telephone No.: (805) 545-4409		phone No.		
Sample Information System Name / Facility: ///Afflo GAFGL	<b>18</b> .8.	ng Agency		***************************************
Sampling Point (s):		WFOB (		RWQCB() DTSC
552	920	WTPB MB		DWR CDFG
System No.:			Other (Spe	sily)
TYPE OF SAMPLE (Check all applicable boxes)				
☐ Drinking Water ☐ Groundwater	<b>S</b> S	urface Wa	ter	☐ Wastewater
☐ Raw ☐ Water Treatment F	Plant (WTP) 🐠 D	istribution	System	Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorinated / Chlori	Chlorine Diox <b>el</b> e /	Ozonated /	Peroxizone / Fluor	idated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	o s	eawater		☐ Sludge (Semi-solid Samples)
*Finishing:		lilk		☐ Soil/Sediment
Starting:	<del></del>	/ipes		
Net (M³)		adon Canis		Biota (Type):
☐ Air Charcoal Cartridge	* ^	audii Cani	ster t	Other:
_ / iii o/ia/ood/ od/a/age				
COMMENTS: (Cautions, etc.):				
☐ Field Treatment: Preservatives added:		Frozen:	Ot	her:
☐ Field Measurement:mR	/hr 📝 🗓 Ra	adionuclide		
Rush/Priority (should be prearranged and have supe	rvisory approval)			
ANALYSIS REQUESTED (For questions, please call 51				
	Gross Beta		<b>♀</b> Gamma So	
☐ Total Uranium	4	·	NORM (Ga	
	Tritium ( <sup>3</sup> H)			
	Carbon-14		☐ Isotopic All	nericium / Curium
	lodine-131		☐ Isotopic Th	
	Strontium-89, 90		lsotopic Ur	
	Nickel-63			anium
CHAIN OF CUSTODY	MONGI-U3		☐ Iron-55	
· whali		\	\	lead.
Date Name (Print)		1	1/-	_/ <i>v//9///</i> Date
Time Custody Received Organization		Hous,	the -	
Time Custody Received Organization	Signa	gare /	/	Timé Custody Released
Date Name (Print)				Date
Time Custody Received Organization				<u> </u>
- 1012011	Signa	ture		Time Custody Released
Date Name (Print)		~ <b>-</b>		Date
Time Custody Received Organization	B	( Ju	long 4 al	
Time Custody Received Organization	Signa	ture	~1·~~	Time Custody Released
ABORATORY REMARKS (Leave Blank)	c 0.01 1	URLIN		
		MH		
☐ Acceptable ☐ Broken Containe ☐ Holding Time Exceeded ☐ Sample Not Coo		eaked in Transufficient S		☐ Improper Container
Preservatives/Carriers:		J. Marie		
. Preservatives/Carriers: ☐ Added While Sampling ☐ Added in Labora	forv D A	Not Added		



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0986

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Site Name: Diablo Canyon NPP

Collector's Name: Tom Hook

Date/Time Collected: 10/19/2011 09:44 Date/Time Received: 10/20/2011 09:50

Source Name: DCNPP / October 2011

R Number: R 92553

Sample Type: Surface Water

Sample ID Sampling Point Method <u>Parameter</u> Result ± CE MDA95 Units N11-0986-001 Diablo Creek EPA 906.0 Tritium 12.2 ± 160 275 pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

Lab 803 (11/07)

REQUEST FOR SAMP	LEANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804	Date Received Lab No. (Ceave Blank)  110(20(1)
510-620-2911	Date & Time Sampled Serial Number
	19/19/11-0944 R 92553
Collector Information  Name: TOM HOOK Dept./Branch: P.O. BOX 50 Address: AULA E(SCI), CA 93424	Reporting Information Name: Dept./Branch: Address:
AUCA BISALI, CA 15101	
Telephone No.: (8/35/345-4409 Sample Information	relephone No.:
System Name / Facility: White Olafun Sampling Point (s):	Billing Agency  DWFOB() RHB RWQCB() DTSC  DWTPB DFDB DWR CDFG  EMB Other (Specify)
System No.: 2009 552	Car Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)  Drinking Water Groundwater Water Treatment Plant (WTI	Surface Water P) Distribution System  Wastewater P Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine D	Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
Air Filters Date/Time	☐ Sludge (Semi-solid Samples)
Finishing:	■ Milk □ Soil/Sediment
Starting:	Wipes   Biota (Type):
Net (M <sup>3</sup> )	Radon Canister Other: TRITICH SHIPLE
Air Charcoal Cartridge	A 3000 1000 341146
OMMENTS: (Cautions, etc.)	
Field Treatment: Preservatives added:	ced/Frozen: Other:
Field Measurement:mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory ap	proval)
NALYSIS REQUESTED (For questions, please call 510-620-29	
Gross Alpha	eta Gamma Scan
	ta (SC) NORM (Gamma)
Total Radium	- Office
Radium-226 Carbon-	= "The state of the state of th
Radium-228 —	
Radon-222	
Other (Specify); Nickel-63	<b>38</b> 7
HAIN OF CUSTODY	
Date Name (Print)	10/19/11
0944 - PG:K	Date 1700
Time Custody Recoved . Organization	Custody Released
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
Date O Name (Print)	Date
9:50) Duple	Signature / Signature Time Custody Released
NOT MAKE THE STATE OF THE STATE	
Condition at Time of Receipt:  Acceptable  Broken Container	DEMR/HR
U Holding Time Exceeded U Sample Nor Cooled	☐ Leaked in Transit ☐ Improper Container ☐ Insufficient Sample
➤ Preservatives/Carriers: □ Added While Sampling □ Added in Laboratory	□ Not Added □ Not Applicable >**



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0987

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Date/Time Collected: 10/19/2011 09:55 Date/Time Received: 10/20/2011 09:50

Site Name: Diablo Canyon NPP

Source Name: DCNPP / October 2011

**R Number:** R 92489

Sample Type: Drinkingwater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0987-001	Bio Lab Sink	EPA 901.1	K-40	2.06 ± 17.2	81.0	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

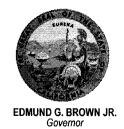
REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

REQUEST FOR SAMPLE	ANAL 1313 (Naulochel lical)
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	Date Received Lab No. (Leave Blank)
Richmond, CA 94804	1 10 20 1 NII-0987
510-620-2911	Date & Time Sampled Serial Number R 92489
Collector Information	Reporting Information
Name: Jon Hook	Name:
Dept./Branch: P.O. BIX 56 Address: AULA BEACH, CA 93424	Dept./Branch: Address
AULA BEACH, CA 13424	
Telephone No. (205) 575-4409	Telephone No.:
Sample Information System Name / Facility: BID LAB	Billing Agency
System Name / Facility: E/D CA15 Sampling Point (s):	D DWFOB() D RHB D RWQCB() D DTSC D DWTPB D FDB D DWR D CDFG
July	O Other (Specify)
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
	☐ Surface Water ☐ Wastewater ☐ Point of Use (POU)
Raw Water Treatment Plant (WTP)	dide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	ige / Ozonated / Peroxizone / Pidondated / Coagulated / pin Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	☐ Milk ☐ Soil/Sediment
Starting:	₩ipes □ Biota (Type):
Net (M <sup>3</sup> )	Radon Canister
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	ced/Frozen: Other:
Field Treatment: Preservatives added:	<b>第78</b> 843
	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory appro	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
☐ Gross Alpha ☐ Gross Beta	
☐ Total Uranium ☐ Total Beta	
☐ Total Radium ☐ Tritium (³H	
□ Radium-226 □ Carbon-14	(Barana) and the control of the con
☐ Radium-228 ☐ Iodine-131	·····································
□ Radon-222 □ Strontium-	
Other (Specify); Nickel-63	☐ Iron-55
CHAIN OF CUSTODY	
1. 10/19/11   1000 Hook   Name (Print)	Date
0956 Pack	1700
Time Custody Received Ofganization	Signature Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
3. Date 10(20(1) Name (Print)	Date
Date Name (Print)	A whoma M Alt
Time Custody Received Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank)	
A. Condition at Time of Receipt:	
Acceptable     Broken Container     Holding Time Exceeded     Sample Not Cooled	□ Leaked in Transit □ Improper Container □ Insufficient Sample
B. Preservatives/Carriers:  □ Added While Sampling □ Added in Laboratory	□ Not Added □ Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0988

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Site Name: Diablo Canyon NPP

Collector's Name: Tom Hook

Date/Time Collected: 10/19/2011 09:55 Date/Time Received: 10/20/2011 09:50

Source Name: DCNPP / October 2011

R Number: R 92480

Sample Type: Drinkingwater

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0988-001
 Bio Lab Sink
 EPA 906.0
 Tritium
 -81.2 ± 158
 275
 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

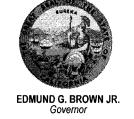
<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical) Lab No. (Leave Blank) Date Received Sanitation and Radiation Laboratories Branch NII- 0988 850 Marina Bay Parkway, G164 Richmond, CA 94804 Serial Number Date'& Time Sampled 510-620-2911 92480 Reporting Information Collector Information Name: Name: Dept./Branch: Dept./Branch: Address: Address: elephone No.: Telephone No.: Billing Agency Sample Information ☐ DTSC RWQCB() DWFOB() ☐ RHB System Name / Facility: ☐ CDFG ☐ FDB DWR DWTPB Sampling Point (s): ☐ Other (Specify) **EMB** System No.: TYPE OF SAMPLE (Check all applicable boxes) ■ Wastewater Surface Water Groundwater ☐ Groundwater ☐ Surface Water ☐ Water Treatment Plant (WTP) ☐ Distribution System Drinking Water Point of Use (POU) ☐ Raw Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted ☐ Sludge (Semi-solid Samples) Seawater Date/Time ☐ Air Filters □ Soil/Sediment Milk Finishing: ☐ Biota (Type): Wipes Starting: Other: THITUM SHIPLE Radon Canister Net (M3) ☐ Air Charcoal Cartridge COMMENTS: (Cautions, etc.): Other: lcéd/Frozen: ☐ Field Treatment: Preservatives added: Radionuclide(s), if known: mR/hr ☐ Field Measurement: ☐ Rush/Priority (should be prearranged and have supervisory approal) ANALYSIS REQUESTED (For questions, please call 510-620-2911) ☐ Gamma Scan ☐ Gross Beta ☐ Gross Alpha ■ NORM (Gamma) ☐ Total Beta (LSC) □ Total Uranium ☐ Isotopic Americium / Curium Tritium (3H) Total Radium ☐ Isotopic Plutonium ☐ Carbon-14-□ Radium-226 ☐ Isotopic Thorium ☐ fodine-131 □ Radium-228 Isotopic Uranium ☐ Strontium-89, 90 ☐ Radon-222 ☐ Iron-55 ☐ Nickel-63 Other (Specify); CHAIN OF CUSTODY Name (Print) \_/*O//A//*//Date Organization Time Custedy Released Time Custody Received Date Name (Print) Date Time Custody Released Signature Organization Time Custody Received 10/20/11 Date Name (Print) Time Custody Released Organization Time Custody Received LABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Improper Container Leaked in Transit **Broken Container** Acceptable Insufficient Sample ☐ Holding Time Exceeded Sample Not Cooled Preservatives/Carriers: **Not Applicable Not Added** Added While Sampling Added in Laboratory



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0961

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Date/Time Collected: 10/17/2011 07:40 Date/Time Received: 10/18/2011 11:00

Source Name: DCNPP / October 2011

Site Name: Diablo Canyon NPP R Number: R 92534

Sample Type: Seawater

**Sampling Point** Sample ID Method **Parameter** Result ± CE MDA95 **Units** N11-0961-001 **Outfall Water** EPA 901.1 K-40 340 ± 17.9 61.8 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)			
Sanitation and Radiation Laborato 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	ries Branch	Date Received	Lab No. (Leave Blank)  N11 - () 9 (, 1)  Serial Number
		10/17/11- 0740	R 92534
Collector Information Name: Dept./Branch: P.O. Bix 5 (6) Address: AULA BRACH,	CA 93424	Reporting Information Name: Dept./Branch: Address:	
Telephone No.: (805) 545 -	4409	Telephone No.:	
Commission lands are all	UT	Billing Agency DWFOB() RHB DWTPB FDB	RWQCB() DTSC DWR DCDFG ecify)
TYPE OF SAMPLE (Check all applic	able boxes)	(2) (2)	<del></del>
☐ Drinking Water ☐ Raw ☐	Groundwater Water Treatment Plant (WTP)	Surface Water Distribution System	☐ Wastewater ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated	Chioraminated / Chiorine Dio	rige / Ozonated / Peroxizone / Fluo	ridated / Coagulated / pH Adjusted
Air Filters Finishing: Starting: Net (M³)	Date/Time	Seawater  Milk  Wipes  Radon Canister	□ Sludge (Semi-solid Samples) □ Soil/Sediment □ Biota (Type): □ Other:
☐ Air Charcoal Cartridge			
COMMENTS: (Cautions, etc.):  □ Field Treatment: Preservatives a □ Field Measurement:	added:	lced/Frozen:O	ther:
Rush/Priority (should be prearrang	ed and have supervisory open	Radionuclide(s), if known:	
	The second secon		
ANALYSIS REQUESTED (For question			
☐ Gross Alpha	☐ Gross Beta	_ Oui.iiia O	can
☐ Total Uranium	☐ Total Beta		amma)
Total Radium	☐ Tritium ( <sup>3</sup> H)	☐ Isotopic A	mericium / Curium
☐ Radium-226 ☐ Radium-228	☐ Carbon-14	🧵 🚨 Isotopic P	
Radon-222	lodine-131	☐ Isotopic Ti	
	☐ Strontium-8	9, 90 🔲 Isotopic U	ranium
Other (Specify);		☐ Iron-55	
CHAIN OF CUSTODY			
Date Name (Pri		12/2/201	17/17/17 Date
Time Custody Received Organization  Date Name (Prince Prince Prin	<u> </u>	Signature //	Time Custody Released  Date
Time Custody Received Organization			
Date 10 14 Name (Prin	1CIA	Signature	Time Custody Released
Time Gustody Received Organization	DURLB	Signature Working Signature	Time Custody Released
ABORATORY REMARKS (Leave Bia . Condition at Time of Receipt: . Acceptable C . Holding Time Exceeded	Broken Container	Leaked in Transit	U Improper Container
Preservatives/Carriers:		☐ Insufficient Sample  ☐ Not Added	D. Add Applicable.



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. N11-0962

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Site Name: Diablo Canyon NPP

Collector's Name: Tom Hook

Date/Time Collected: 10/17/2011 07:40 Date/Time Received: 10/18/2011 11:00

Source Name: DCNPP / October 2011

R Number: R 92554

Sample Type: Seawater

Sample ID

Sampling Point

<u>Method</u>

Parameter

Result ± CE

MDA95

<u>Units</u>

N11-0962-001

Outfall Water

EPA 906.0

Tritium

6.09 ± 160

275

pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLI	E ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	10/14/11 NUMIDAGORI
Richmond, CA 94804	Date & Time Sampled Serial Number
510-620-2911	10/17/11 0740 R 92554
Collector Information	Reporting Information
Name:	Name:
Name: Dept./Branch: Total /fook Dept./Branch: Total / 50	Dept./Branch:
Address: ALILA BENCH, CA 75429	Address.
Telephone No.: (205) 545 = 4409	Felephone No:
Sample Information	Billing Agency
System Name / Facility: // // Colored Sampling Point (s):	D DWFOB() RHB RWQCB() DTSC
Sampling Point (s).	EMB Other (Specify)
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater	Surface Water Wastewater
☐ Raw ☐ Water Treatment Plant (WTP	
Treated (circle one): Chlorinated / Chlorinated / Chlorine Di	oxige / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	Milk D Soil/Sediment.
Starting:	Wipes 🔲 Biota (Type):
Net (M³)	Radon Canister
Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):  Preservatives added:	loed/Frozen: Other:
- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	Radionuclide(s), if known:
☐ Field Measurement:mR/hr // Rush/Priority (should be prearranged and have supervisory approximately supervisory supervisory approximately supervisory superv	
ANALYSIS REQUESTED (For questions, please call 510-620-291	
☐ Gross Alpha ☐ Gross Be	
☐ Total Uranium ☐ Total Bet	
☐ Total Radium ☐ Tritium ( <sup>3</sup>	
☐ Radium-226 ☐ Carbon-1	
□ Radium-228 □ Iodine-13	
☐ Radon-222 ☐ Strontium	그 治療経済 하는 사람들은 사람들이 되었다. 그는 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들이 되었다.
Other (Specify); Nickel-63	3 📮 Iron-55
CHAIN OF CUSTODY  1. 10/17/1/ Torn Hook	10/17/11
Date Name (Print)	Date
0740 P6.F	1700
Time Custody Received Organization 2.	Signature Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
Time Custody Received Organization  3.   O   O   I   O   I   O   I   O   O   O	
Date Name (Print)	Date Date
Time Custody Received Organization	Signature Time Custody Released
	Timo Cooky Foliased
LABORATORY REMARKS (Leave Blank)  A. Condition at Time of Receipt:	
☐ Acceptable ☐ Broken Container	☐ Leaked in Transit ☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled	☐ Insufficient Sample
B. Preservatives/Carriers:	

Lab 803 (11/07)



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0898

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 09/28/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 09/19/2011 09:40 Date/Time Received: 09/20/2011 11:30

Site Name: Diablo Canyon NPP

Source Name: DCNPP / September 2011

R Number: R 91100

Sample Type: Surface Water

Sample ID

**Sampling Point** 

Method

**Parameter** 

Result ± CE

MDA95

**Units** 

N11-0898-001

Diablo Creek

EPA 901.1

K-40

22.1 ± 13.1

60.4

pCi/L

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE	
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received,   Lab No. (Leave Blank)
Name: Tom Hook Dept./Branch: B. B. B. S. B. Address: Au LA Brack, CA 9345 b  Telephone No. (805) 545-4409	Reporting Information Name: Dept./Branch: Address: Relephone No.:
Sample Information System Name / Facility: DIABLO GUSAL Sampling Point (s):  System No.:	DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG EMB Other (Specify)
Raw Water Treatment Plant (WTP)	Surface Water
☐ Air Filters Date/Time Finishing: Starting: Net (M³) ☐ Air Charcoal Cartridge	Seawater Sludge (Semi-solid Samples)  Milk Soil/Sediment  Wipes Biota (Type):  Radon Canister Other:
COMMENTS: (Cautions, etc.):  □ Field Treatment: Preservatives added: □ Field Measurement:mR/hr □ Rush/Priority (should be prearranged and have supervisory appro	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)  Gross Alpha  Total Uranium  Total Radium  Radium-226  Radium-228  Radon-222  Other (Specify);	Gamma Scan  (LSC) NORM (Gamma)  Isotopic Americium / Curium  Isotopic Plutonium  Isotopic Thorium  Isotopic Uranium
Time Custody Received  Date  Date  Name (Print)  Time Custody Received  Name (Print)  Time Custody Received  Organization  Name (Print)  Name (Print)  Name (Print)  Name (Print)  Organization	Signature  Date  Date  Time Custody Released  Date  Time Custody Released  Date  Time Custody Released  Time Custody Released
LABORATORY REMARKS (Leave Blank)  A. Condition at Time of Receipt:  Acceptable  Holding Time Exceeded  B. Preservatives/Carriers:  Added While Sampling  Added in Laboratory	© Leaked in Transit



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0899

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 10/10/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Site Name: Diablo Canyon NPP

Collector's Name: Tom Hook

Date/Time Collected: 09/19/2011 11:00 Date/Time Received: 09/20/2011 11:00

Source Name: DCNPP / September 2011

R Number: R 92548

Sample Type: Surface Water

Sample ID

Sampling Point

<u>Method</u>

<u>Parameter</u>

Result ± CE

MDA95

<u>Units</u>

N11-0899-001

Diablo Creek

EPA 906.0

Tritium

101 ± 147

248

pCi/L

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR	SAMPLE ANALYSIS (Rad	iochemical)	
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	Date Re	celyed	Lab No. (Leave Blank)
Richmond, CA 94804	920		N11-0299
510-620-2911	Date & Time	Sampled	Serial Number R 92548
Collector Information	Reporting Inform	ation	N 32340
Name: Dept./Branch: Do fly 56 Address: AVIVA BEACH, CA 9345 84	Name: Dept./Branch: Address:		
Telephone No: (805) 545-4404	Telephone No.:		Substitution of the substi
Sample Information	Billing Agency		
System Name / Facility: () / ABIO CALER Sampling Point (s):  System No::	DWFOB() DWTPB EMB	RHB RWQ0 FDB DWR Other (Specify)	CB() DTSC DCDFG
TYPE OF SAMPLE (Check all applicable boxes)			
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment Plant	Surface Water Distribution Sys	tem 🔲 Poi	stewater nt of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Cl	nlonne Dioxide / Ozonated / Pe	roxizone / Fluoridated	/ Coagulated / pH Adjusted
☐ Air Filters Date/Time	☐ Seawater	☐ Slu	dge (Semi-solid Samples)
Finishing:	_ Milk	the second secon	l/Sediment
Starting:	_ Wipes	□ Bio	ta (Type):
Net (M <sup>3</sup> )	Radon Canister		er: MAJUH SAMPLE
☐ Air Charcoal Cartridge		7	··· prapiure surviva
COMMENTS: (Cautions, etc.):  Field Treatment: Preservatives added:  Field Measurement:mR/h  Rush/Priority (should be prearranged and have superv	<b>3</b>	Other: _	
ANALYSIS REQUESTED (For questions, please call 510	-620-2911)		
☐ Gross Alpha	Gross Beta	☐ Gamma Scan	
	Total Beta (LSC)	□ NORM (Gamma)	
d'	Tritium ( <sup>3</sup> H <del>))</del>	☐ Isotopic Americiu	m / Curium
	Carbon-14	☐ Isotopic Plutoniur	
☐ Radium-228	odine-131	☐ Isotopic Thorium	
☐ Radon-222 ☐ :	Strontium-89, 90	☐ Isotopic Uranium	
Other (Specify);	Nickel-63	☐ Iron-55	
CHAIN OF CUSTODY			<del></del>
Date Name (Print)	+ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$		9/19/11 Date/
Time Custody Received Organization 2.	Perfective "		Time Castody Released
Date Name (Print)			Date
Time Custody Received Organization  Date Name (Print)	Signature		Time Custody Released
Time Custody Received Organization	Signature Jul	ono M. ale	Date Time Custody Released
ABORATORY REMARKS (Leave Blank)  Condition at Time of Receipt:  Acceptable  Holding Time Exceeded  Preservatives/Carriers:	C 0.01 MR/HR Leaked in Transi		Improper Container
☐ Added While Sampling ☐ Added in Laborate	ny DNot Added		Not Applicable



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



Governor

# FINAL Analysis Results Report for Task ID. N11-0900

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 09/28/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook Site Name: Diablo Canvon NPP

Date/Time Collected: 09/19/2011 09:30 Date/Time Received: 09/20/2011 11:00

Source Name: DCNPP / September 2011

R Number: R 91111

Sample Type: Drinkingwater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0900-001	Bio Lab Sink	EPA 901.1	K-40	36.8 ± 14.1	64.5	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors

	SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch		Date Received Lab No	o. (Leave Blank)
850 Marina Bay Parkway, G164		= 412011 NIT	() 400
Richmond, CA 94804 510-620-2911			rial Number
		9/19/11 0930 R	91111
Collector Information		Reporting Information	
Name: Tou Hook	48	Name: Dept./Branch:	
Dept./Branch: 10.60/576 Address: AUGA GACA, CA 93454		Address:	
AUGA BEACH, W. 13	L L		
Telephone No.: (805) 545 -4409		Telephone No.:	
Sample Information System Name / Facility: FLO CAB	T.	Billing Agency	D DTCC
Sampling Point (s):		□ DWFOB() □ RHB □ RWQCB() □ DWTPB □ FDB □ DWR	D DTSC CDFG
()///7_	. 10	☐ EMB ☐ Other (Specify)	
System No.:			
TYPE OF SAMPLE (Check all applicable boxes)			<b>y</b>
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment P		Surface Water Wastewa	
☐ Treated (circle one): Chlorinated / Chloraminated / C		Distribution System Point of U	
u Treated (circle one): Uniorinated / Unioraminated / U		Me / Ozonateu / Feroxizone / Fluoridated / Coat	juiateu / pi i Aujusteu
☐ Air Filters Date/Time		Seawater	Semi-solid Samples)
Finishing:	•	☐ Milk ☐ Soil/Sedir	nent
Starting:		☑ Wipes ☐ Biota (Typ	oe):
Net (M³)		☐ Radon Canister ☐ Other:	
☐ Air Charcoal Cartridge			
			•
COMMENTS: (Cautions, etc.);	* *	opd/Frozen: Other:	7
☐ Field Treatment: Preservatives added:			
□ Field Measurement:mR/		Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have super	visory appro	yal)	
ANALYSIS REQUESTED (For questions, please call 51	0-620-2911)		
☐ Gross Alpha ☐	Gross Beta	Gamma Scan	
☐ Potal Uranium ☐	Total Beta	LSC) U NORM (Gamma)	
☐ Total Radium ☐	Tritium ( <sup>3</sup> H)	☐ Isotopic Americium / C	urium
☐ Radium-226 ☐	Carbon-14	☐ Isotopic Plutonium	
☐ Radium-228 ☐	lodine-131	☐ Isotopic Thorium	
☐ Radon-222 ☐	Strontium-8	9, 90 🔲 Isotopic Uranium	
☐ Other (Specify); ☐	Nickel-63	□ Iron-55	
CHAIN OF CUSTODY	7		1/10/11
1. 9/19// Name (Print)	<del></del>	7	7/7//
Dafe Name (Print)		Date	1700
Time Custody Received Organization		Signature Time	Custody Released
2. Date Name (Print)	<del></del>	Date	
Date (Finit)			
Time Custody Received Organization		Signature Time	Custody Released
3. UA VA  Date 1 ( Name (Print)		Date	
11:30 91 20TI DWRLB		Quelongo M. Ola	
Time Custody Received Organization		Signature Time	Custody Released
LABORATORY REMARKS (Leave Blank)	6 0.01	MR/HR	
A. Condition at Time of Receipt:	defallator (1767)		
☐ Acceptable ☐ Broken Contain ☐ Holding Time Exceeded ☐ Sample Not Co	er oled	☐ Leaked in Transit ☐ Impr ☐ Insufficient Sample	oper Container
B. Preservatives/Carriers:	1		ana wasin mbat



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0901

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 10/10/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Date/Time Collected: 09/19/2011 09:30 Date/Time Received: 09/20/2011 11:30

Site Name: Diablo Canyon NPP

Source Name: DCNPP / September 2011

**R Number:** R 92544

Sample Type: Drinkingwater

Sample ID **Sampling Point** Method **Parameter** Result ± CE MDA95 <u>Units</u> N11-0901-001 Bio Lab Sink EPA 906.0 Tritium 47.7 ± 145 248 pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors

for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

O Marine Bey Parkovay, G164 htmond, CA Meddo 0-620-2911    Post of Time Sampled   Serial Number   P.   Post of Time Sampled   Serial Number   P.   P.   P.   P.   P.   P.   P.   P		NALYSIS (Radiochemical)	N. O.
Date   Time   Sampled   Serial Number   R   92544   Serial Number   Serial Number   R   92544   Serial Number   R   92544   Serial Number   R   92544   Serial Number   R   92544   Serial Number	anitation and Radiation Laboratories Branch		/VLAB-No. (Leave Blank)
District Information me: ppt/Branch: ppt/B			1 MI- 101
Surface   Surf			
Barne:   B			<u>  R 92544                                  </u>
Dept-Branch:   Dept	ollector Information		
Sephane No.	ame: Tour Hook		
Sephone No.	Idress: P.O. Box 50 93426	100 m	
Imple Information: Imple Informa	ALLIA BRACILICA		
Interest Name / Facility:	elephone No.:		
Down Point (s):   Down Point	ample Information		DWOCB ( ) D DTCC
Sem No.			
PE OF SAMPLE (Check all applicable boxes)  Drinking Water Raw   Groundwater Raw   Water Treatment Plant (WTP)   Distribution System   Point of Use (POU)  Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxitie / Ozonated / Peroxizone / Fluoridated / Coagulated / ph Adjuster  Air Filters   Date/Time   Seawater   Sludge (Semi-solid Samples)  Finishing:   Wijes   Biota (Type):    Wijes   Biota (Type):   Print   Biota (Type):    Wijes   Biota (Type):   Wijes   Biota (Type):    Wijes   Biota (Type):   Wijes   Wi	N/1/1		
Drinking Water Raw   Groundwater Raw   Wastewater   Water Treatment Plant (N/TP)   Distribution System   Originization   Originization   Wastewater   Water Treatment Plant (N/TP)   Distribution System   Originization   Ori	ystem No.:		
Water Treatment Plant (WTP)   Distribution System   Point of Use (POU)	PE OF SAMPLE (Check all applicable boxes)		
Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters			
Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Milk Soil/Sediment Starting: Milk Soil/Sediment Wipes Blota (Type): Milk Soil/Sediment Wipes Blota (Type			
Finishing: Starting: Wipes   Biota (Type): Net (M*)   Radon Canister   Other: Through Bottle Air Charcoal Cartridge    MMENTS: (Cautions, etc.):	Treated (circle one): Chlorinated / Chloraminated / Chlorine Dic	District / Ozonated / Peroxizone / Pido	Tidated / Coagulated / pri Adjusted
Starting:	Air Filters Date/Time	Seawater	☐ Sludge (Semi-solid Samples)
Net (M³) Air Charcoal Cartridge    Paddin Canister   Preservatives added:   Prozen:   Other:   Properties	Finishing:	Milk	☐ Soil/Sediment
Net (M*)  Air Charcoal Cartridge    MMENTS: (Cautions, etc.):	Starting:	Wipes	☐ Biota (Type):
Air Charcoal Cartridge    MMENTS: (Cautions, etc.):		Radon Canister	Other: Minu Bottle
DMMENTS: (Cautions, etc.):   Field Treatment:   Preservatives added:   Radionuclide(s), if known:   Radionuclide(s), if known:   Rush/Priority (should be prearranged and have supervisory approval)			7
Field Treatment: Preservatives added:			
Field Measurement:mR/hr	OMMENTS: (Cautions, etc.):		<del>}                                    </del>
Rush/Priority (should be prearranged and have supervisory approval)  NALYSIS REQUESTED (For questions, please call 510-620-2911)  Gross Alpha  Total Uranium  Total Beta (SC)  NORM (Gamma)  Total Radium  Printium (³H)  Radium-226  Carbon-14  Radium-228  Radium-222  Strontium-89  Other (Specify);  Name (Print)  Time Custody Received  Organization  Name (Print)  Time Custody Received  Organization  Signature  Fine Custody Received  Organization  Signature  Time Custody Released  Date  Name (Print)  Date  Name (Print)  Date  Time Custody Received  Organization  Signature  Time Custody Released  Date  Time Custody Received  Organization  Signature  Time Custody Released  Date  Time Custody Released  Date  Time Custody Received  Organization  Signature  Time Custody Released  Date  Time Custody Released			
MALYSIS REQUESTED (For questions, please call 510-620-2911)  Gross Alpha		78	
Gross Alpha	Rush/Priority (should be prearranged and have supervisory app	proval)	
Total Uranium  Total Radium  Total Radium  Radium-226  Radium-228  Radium-228  Radium-222  Radium-229	NALYSIS REQUESTED (For questions, please call 510-620-291	1)	
Total Radium Radium-226   Carbon-14   Isotopic Americium / Curium Radium-228   Isotopic Plutonium Radium-228   Isotopic Plutonium Radium-228   Isotopic Plutonium Radium-228   Isotopic Thorium Radium-222   Isotopic Uranium Other (Specify);   Inon-55    IAIN OF CUSTODY	Gross Alpha Gross Be	ta 🖟 🔲 Gamma :	3can
Radium-226  Radium-228  Radon-222  Strontium-89, 90  Isotopic Plutonium  Isotopic Plutonium  Isotopic Plutonium  Isotopic Plutonium  Isotopic Plutonium  Isotopic Uranium  Isotopic Plutonium  Isotopic Pl	Total Uranium	a (ESC) UNORM (C	Samma)
Radium-228 Radon-222 Strontium-89, 90 Isotopic Thorium Strontium-89, 90 Isotopic Uranium Other (Specify); Nickel-63 Iron-55  IAIN OF CUSTODY Date Time Custody Received Organization Time Custody Received Organization Time Custody Received Organization Signature Time Custody Received Organization Time Custody Received Organization Signature Time Custody Released  Name (Print) Date Time Custody Received Organization Signature Time Custody Released  Name (Print) Date Time Custody Received Organization Signature Time Custody Released  NBORATORY REMARKS (Leave Blank) Condition at Time of Receipt:  Readon-222 Signature  Improper Container	Total Radium Tritium (3	H) Isotopic /	Americium / Curium
Radon-222	Radium-226	4 D Isotopic F	Plutonium
Other (Specify);		The state of the s	Thorium
Time Custody Received Organization Signature Time Custody Released Date Name (Print)  Time Custody Received Organization Signature Time Custody Released Date Name (Print)  Time Custody Received Organization Signature Time Custody Released Date Name (Print)  Date Name (Print)  Date Time Custody Received Organization Signature Time Custody Released Name (Print)  Date Date Date Date Time Custody Received Organization Signature Time Custody Released Name (Print) Date Date Date Date Date Date Date Date	Radon-222 Strontium	n-89, 90 🔲 Isotopic l	Jranium
Date    Date   D	Other (Specify);	□ Iron-55	
Time Custody Received Organization  Date  Time Custody Received Organization  Date  Time Custody Received Organization  Date  Name (Print)  Date  Time Custody Received Organization  Signature  Time Custody Released  Time Custody Received Organization  Date  Time Custody Released  Name (Print)  Date  Time Custody Released  Date  Time Custody Released  Date  Time Custody Released  Date  Time Custody Released  Date  Date  Time Custody Released  Date  Date  Date  Time Custody Released	IAIN OF CUSTODY		
Time Custody Received Organization  Date  Time Custody Received Organization  Date  Time Custody Received Organization  Date  Name (Print)  Date  Time Custody Received Organization  Signature  Time Custody Released  Time Custody Received Organization  Date  Time Custody Released  Name (Print)  Date  Time Custody Released  Date  Time Custody Released  Date  Time Custody Released  Date  Time Custody Released  Date  Date  Time Custody Released  Date  Date  Date  Time Custody Released	9/19/11 Nove Hook		9//9///
Date    Date   Date   Date	0930 P61K	- Howard	
Time Custody Received Organization Signature Time Custody Released  Date Name (Print) Date  Time Custody Received Organization Signature Time Custody Released  BORATORY REMARKS (Leave Blank) Condition at Time of Receipt:  Acceptable Descent Broken Container Descent Desc		Signature	Time Custody Released
Time Custody Received Organization Signature Time Custody Released  Date Name (Print) Date  Time Custody Received Organization Signature Time Custody Released  BORATORY REMARKS (Leave Blank) Condition at Time of Receipt:  Acceptable Descent Broken Container Descent Desc	Date Name (Print)	<b>~</b>	Date
Date  Name (Print)  Time Custody Received Organization  Signature  Time Custody Released  BORATORY REMARKS (Leave Blank)  Condition at Time of Receipt:  Acceptable  Broken Container  Date  Time Custody Released			
Date  Name (Print)  Time Custody Received Organization  Signature  Time Custody Released  BORATORY REMARKS (Leave Blank)  Condition at Time of Receipt:  Acceptable  Broken Container  Date  Time Custody Released	the state of the s	«Signature	Time Custody Released
Time Custody Received Organization Signature Time Custody Released  BORATORY REMARKS (Leave Blank) Condition at Time of Receipt:  Acceptable Broken Container D Leaked in Transit Improper Container			Date
BORATORY REMARKS (Leave Blank) \( \int 0.01 MP//R\) Condition at Time of Receipt:  \[ \text{Acceptable}  \text{Broken Container} \text{D Leaked in Transit}  \text{Improper Container} \]	11:30		
☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container	Time Custody Received Organization	Signature	Time Custody Released
☐ Acceptable ☐ Broken Container ☐ Leaked in Transit ☐ Improper Container	ABORATORY REMARKS (Leave Blank) / () . () 1 ()	ARIAR	
	Condition at Time of Receipt.		D by
			a improper container
	Preservatives/Carriers:  Added While Sampling Added in Laboratory	Not Added	Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0902

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 09/28/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Steve Hsu

Date/Time Collected: 09/19/2011 07:45 Date/Time Received: 09/20/2011 11:30

Source Name: DCNPP / September 2011

Site Name: Diablo Canyon NPP

Sample Type: Seawater

R Number: R 91406

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0902-001
 Outfall Water
 EPA 901.1
 K-40
 330 ± 17.7
 62.5
 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	Date Received Lab No. (Leave Blank)
Richmond, CA 94804	Date & Time Sampled Serial Number
510-620-2911	9/19/1) 0745 R 91406
Collector Information ,	Reporting Information
Name: Tom Hook	Name:
Dept/Branch: '2 \qquad 2 \qquad 57 \qquad	Dept./Branch:
Address: ANIA BEACIL, CA 93424	Address:
Telephone No.: (805) 545-4404	Telephone No.:
	Billing Agency
System Name / Facility: /) CAP DUTFVALC	D DWFOB() RHB RWQCB() DTSC
Sampling Point (s):	D DWTPB D FDB D DWR D CDFG
System No.:	☐ EMB ☐ Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
	☐ Surface Water ☐ Wastewater
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	xide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater
Finishing:	△ Milk □ Soil/Sediment
Starting:	☑ Wipes ☐ Biota (Type):
Net (M³)	Radon Canister Other:
□ Air Charcoal Cartridge	Radon Canister — Cure.
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	lced/Frozen: Other:
☐ Field Measurement:mR/hr	Radionuclide(s), if known:
☐ Rush/Priority (should be prearranged and have supervisory appr	oval)
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
☐ Gross Alpha ☐ Gross Beta	·
☐ Total Uranium ☐ Total Beta	(LSC)
☐ Total Radium ☐ Tritium (³H	Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14	☐ Isotopic Plutonium
☐ Radium-228 ☐ lodine-131	☐ Isotopic Thorium
☐ Radon-222 ☐ Strontium-6	89, 90 Isotopic Uranium
☐ Other (Specify); ☐ Nickel-63	☐ Iron-55
CHAIN OF CUSTODY	
1. 9/19/11 Touttook	9/19/11
Date Name (Print)	Value of Marie Mar
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
3. <u>aloolu</u> 1) 14	
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank)	OI MR/HR
A. Condition at Time of Receipt:   Broken Container	
☐ Holding Time Exceeded ☐ Sample Not Cooled	Leaked in Transit     Improper Container     Insufficient Sample
B. Preservatives/Carriers:	D Not Added D Not Applicable



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. N11-0903

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 10/10/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 09/19/2011 07:45 Date/Time Received: 09/20/2011 11:30

Site Name: Diablo Canvon NPP

Source Name: DCNPP / September 2011

R Number: R 92543

Sample Type: Seawater

Sample ID

**Sampling Point** 

**Method** 

**Parameter** 

Result ± CE

MDA95

**Units** 

113 ± 147

248

N11-0903-001

Outfall Water

EPA 906.0

Tritium

pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SA			
Sanitation and Radiation Laboratories Branch	Date	Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	$\langle  \mid  \mid  q$	120111	411-0903-
Richmond, CA 94804 10-620-2911	Date &	Time Sampled	Serial Number
	9//9/1/	0745	R 92543
Collector Information	Reporting Info	ormation	
lame: Hook	Name: Dept./Branch:		
ddress: P.O. BOX 56 (4 02/01/	Address:		
Dept./Branch: TEM HOOK Dept./Branch: P.D. BUX SU AUM BRACH, CA 93424	1		
elephone No.: (205) S4*-C/404	# Telephone No.		*
sample Information System Name / Facility: DAP UTFALL	Billing Agenc		RWQCB() DTSC
system Name / Facility: DAN UTVALL sampling Point (s):	D DWFOB (		RWQCB() DTSC DWR DCDFG
1)//	EMB	Other (Spec	The state of the s
System No.:			
YPE OF SAMPLE (Check all applicable boxes)		The second second	
Drinking Water	Surface Wa	iter	☐ Wastewater ☐ Point of Use (POU)
Raw Water Treatment Plant			
Treated (circle one): Chlorinated / Chloraminated / Chlori	ne Dioxide / Ozonateu	/ Peroxizone / Fluori	uated / Coagulated / ph Aujuster
Air Filters Date/Time	Seawater		☐ Sludge (Semi-solid Samples)
Finishing:	Milk		☐ Soil/Sediment
Starting:	Wipes		☐ Biota (Type):
Net (M³)	Radon Can	ister	Other: Thitling SAMPLE
Air Charcoal Cartridge			<b>7</b>
7 III Oligiocal Caldings			
OMMENTS: (Cautions, etc.):		<del>e de la composition de</del>	The state of the s
Field Treatment: Preservatives added:	/ lced/Frozen: _	OI	her:
Field Measurement:mR/hr	📝 🐧 🖺 Radionuclio	de(s), if known:	
Rush/Priority (should be prearranged and have supervisor	ry approval)		
NALYSIS REQUESTED (For questions, please call 510-62	0-2911)	1 3 /	
	ss Beta	☐ Gamma S	can
	al Beta (LSC)	□ NORM (G	
	ium ( <sup>3</sup> H)	•	mericium / Curium
and the first of the control of the	bon-14 👢	☐ Isotopic P	
	ne-131 🖟	☐ Isotopic TI	
	ontium-8 <b>9</b> , 90	☐ Isotopic U	
Other (Specify);		☐ Iron-55	
HAIN OF CUSTODY			
9/19/1 Town Hook		S /	9/19/11
Date Name (Print)			Date
Time Custody Received Organization	* Signature	4/00l	Time Custody Released
Title Custody Neceived Organization	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	King &	Taric Outlody Noiceascu
Date Name (Print)			Date
Time Custody Received Organization	Signature		Time Custody Released
910011 VIA	Signature		Tarie Custody Neieased
Date Name (Print)			Date
Time Custody Received Organization DURLB	- 9ignature	wow M	Time Custody Released
			Time Custouy Released
ABORATORY REMARKS (Leave Blank)	- 0.01 NR/H	R	
. Condition at Time of Receipt:   D Acceptable D Broken Container	□ Leaked in		☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled	O Insufficien		a migropor container
l, Preservatives/Carriers: ☐ Added While Sampling ☐ Added in Laboratory	□ Not Added		□ Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0801

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/26/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Source Name: DCNPP / August 2011

Site and Sample Information

Collector's Name: Orlando Sabi

Date/Time Collected: 08/15/2011 07:40 Date/Time Received: 08/16/2011 11:00

Site Name: Diablo Canyon NPP

Sample Type: Seawater

**R Number:** R 92479

Units Result ± CE MDA95 Sampling Point Method **Parameter** Sample ID 382 ± 19.3 65.3 pCi/L N11-0801-001 **Outfall Water** EPA 901.1 K-40

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	REQUEST FOR SAMP	LEANALYSIS (Radioc	hemical)	
Sanitation and Radiation 850 Marina Bay Parkway, ( Richmond, CA 94804		B/I/b/I/ Date & Time Se		Lab No. (Leave Blank)  1 1- 0 4 0 4 1  Serial Number
510-620-2911		A _ / /	740	
Collector Information Name: On No S Dept./Branch: 7.0.80	181 156	Reporting Informati Name: Dept./Branch:	• / 🐸	R 92479
Address: ANIA BEACH,	11.93424	Address:		
	and the second s			
Telephone No.: (805) Sample Information	42-4413	Billing Agency		
System Name / Facility: Sampling Point (s):	DEPP OUTFAIL	DWFOB() C	RHB RWC FDB DWR Other (Specify)	CD CDFG
System No.:	041		· other (openity) _	· · ·
TYPE OF SAMPLE (Check				
☐ Drinking Water ☐ Raw	Groundwater Water Treatment Plant (WT)	Surface Water P) Distribution System	n 🛄 Po	/astewater pint of Use (POU)
Treated (circle one): Ch	lorinated / Chloraminated / Chlorine D	Dioxide / Ozonated / Perox	(izone / Fluoridated	d / Coagulated / pH Adjusted
☐ Air Filters Finishing:	Date/Time	Seawater Milk		udge (Semi-solid Samples) bil/Sediment
Starting:		Wipes		
Net (M³)		Radon Canister		ota (Type):
Air Charcoal Cartridge		Nadon Camster	<b></b> O	ner:
COMMENTS: (Cautions, et	c.):			
☐ Field Treatment: Prese	rvatives added:	seql/Frozen:	Other:	
Field Measurement:	mR/hr	Radionuclide(s), if	known:	
Rush/Priority (should be	prearranged and have supervisory ap	profeal)		
NALYSIS REQUESTED (F	or questions, please call 510-620-29	11)		
Gross Alpha	☐ Gross Bo	eta 🗀	Gamma Scan	
Total Uranium	☐ Total Be		NORM (Gamma	<b>)</b>
Total Radium	☐ Tritium (	o 🕮 🕳	Isotopic Americi	
Radium-226	☐ Carbon-		Isotopic Plutoniu	
Radium-228	☐ lodine-1:	3	Isotopic Thorium	The state of the s
Radon-222	☐ Strontium		Isotopic Uraniun	
Other (Specify);		and .	I Iron-55	
HAIN OF CUSTODY				
JAS/W	Name (Print)	1/2	$\bigcirc$	2/15/11
0740	Name (Print)	1 CM	4	Date 1700
Time Custody Received	Organization 🙀	- Signature	<del></del>	ne Custody Released
Date	Name (Print)			
	Traine (Fine)			Date
@111.//	Organization  V/A  Name (Print)	Signature		Time Custody Released
	NURLB	M. utn	2/1/2/2	Date
Time Custody Reserved	Organization	Signature Company	ann sere	Time Custody Released
ABORATORY REMARKS (	Leave Blank) / A.	MANR/HD		
<ul> <li>Condition at Time of Rece</li> </ul>	ipt: CU	in the		
Acceptable     Holding Time Exceeds	D Broken Container  d D Sample Not Cooled	☐ Leaked in Transit ☐ Insufficient Sample		Improper Container
. Preservatives/Carriers:  ☐ Added While Sampling	Added in Laboratory	☐ Not Added		Not Apolicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0803

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 10/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Orlando Sabi

Date/Time Collected: 08/15/2011 07:40 Date/Time Received: 08/16/2011 11:00

Site Name: Diablo Canyon NPP

Source Name: DCNPP / August 2011

**R Number:** R 92483

Sample Type: Seawater

**Units** Result ± CE MDA95 Sampling Point **Parameter** Method Sample ID 271 pCi/L **Outfall Water** EPA 906.0 Tritium -69.8 ± 156 N11-0803-001

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE	PINAL 1919 (Kadiochemical)	
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164		ab No. (Leave Blank) - 0803
Richmond, CA 94804	Date & Time Sampled	
510-620-2911	8/15/11 0740	R 92483
Collector Information	Reporting Information	
Name: Dept./Branch: PO. BOX 56	Name:	
Address: Aug a Reach gould	Dept./Branch: Address:	
property to the same of the sa	Aduless.	
Telephone No.: (805) 545-4415	Telephone No.:	
Sample Information System Name / Facility: DCPP OUTFALL	Billing Agency	
Sampling Point (e):	DWFOB() RHB RWQCB	
OUT Out (s).	☐ DWTPB ☐ FDB ☐ DWR ☐ EMB ☐ Other (Specify)	CDFG
System No.:	☐ EMB ☐ Other (Specify)	
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater	Surface Water	ewater
Raw Water Treatment Plant (WTP)	Distribution System Point	of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	ide / Ozonated / Peroxizone / Fluoridated / (	Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludg	ge (Semi-solid Samples)
Finishing:	☐ Milk ☐ Soil/S	* · · · · · · · · · · · · · · · · · · ·
Starting:		
Net (M³)		(Type):
☐ Air Charcoal Cartridge	Radon Canister Rother	TRITIUM SAMPLE
a Ail Charcoal Cartridge		*
COMMENTS: (Cautions, etc.):		
	ced/Frozen: Other:	
F# 6		
☐ Rush/Priority (should be prearranged and have supervisory appro	Radionuclide(s), if known:	
ANALYSIS REQUESTED (For questions, please call 510-620-29 1)		
☐ Gross Alpha ☐ Gross Beta	— Gamma Goan	
☐ Total Uranium ☐ Total Beta	(	
☐ Total Radium ☐ Tritium (³H)	☐ Isotopic Americium	/ Curium
☐ Radium-226 ☐ Carbon-14	☐ Isotopic Plutonium	
Radium-228 lodine-131	☐ Isotopic Thorium	
☐ Radon-222 ☐ Strontium-8	9, 90 🔲 Isotopic Uranium	
Q Other (Specify); Nickel-63	☐ Iron-55	
CHAIN OF CUSTODY		
1. Shely DOLANDO SABI	$\sim$	2/15/11
Date Name (Print)	( 1/2) i	Date
Time Custody Received Organization	delle	1700
2.	Signature O	Time Custody Released
Date Name (Print)	Secretary of the second of the	Date
Time Custody Received Organization	Signature	Time Custosky Balanced
3. <u>chralu</u> VA		ime Custody Released
Date OT WITH Name (Print)	,	Date
Time Custody Received Organization Durk 1	Signal Dedonal ale	· · · · · · · · · · · · · · · · · · ·
	Signature 7	ime Custody Released
LABORATORY REMARKS (Leave Blank)  A. Condition at Time of Receipt: 40.01	MP/UP	
A. Condition at Time of Receipt:   Q Acceptable  Q Broken Container	THE TAX	
- Avorance Li Broken (Antainer		
	Leaked in Transit	nproper Container
	D Inspfficient Sample	nproper Container



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0768

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/22/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 08/03/2011 09:45 Date/Time Received: 08/04/2011 11:20

Site Name: Diablo Canyon NPP

Source Name: DCNPP / Aug 2011

R Number: R 92412

Sample Type: Drinkingwater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0768-001	Bio Lab Sink	EPA 901.1	K-40	49.6 ± 15.2	69.1	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C. Standard Methods for the Exemplation of Webs and

REQUEST FOR SAMP	LE ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804	1 = 8/4/11 NO-0464
510-620-2911	Pate & Time Sampled Serial Number
	82/11-0945 R 92412
Collector Information	Reporting Information
Name: Dept./Branch: Text Hook	Name: Dept./Branch:
Address: P.O. BOX 50	Address:
AVILA REACH, CA 93424	
Name: Dept./Branch: Address: P.O. BDX 50 AVILA REACH, CA 93424 Telephone No.: SDC) SYC-YCIO9	Telephone No.:
Sample Information System Name / Facility: BIO LAB	Billing Agency
1 Sampling Point (s).	DWFOB() RHB RWQCB() DTSC DWTPB DFDB DWR DCDFG
1)1/1	DWTPB D DWR DCDFG DEMB DOther (Specify)
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
Drinking Water Groundwater Raw Water Treatment Plant (WTI	Surface Water P) Distribution System Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine D	Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	
Einishina:	
Starting:	
Net (M³)	☐ Wipes ☐ Biota (Type):
☐ Air Charcoal Cartridge	Radon Canister
a All Charcoal Califluge	
COMMENTS: (Cautions, etc.):	
Field Treatment: Preservatives added:	ced/Frozen: Other:
☐ Field Measurement:mR/hr	Radionuclide(s), if known:
<ul> <li>Rush/Priority (should be prearranged and have supervisory ap</li> </ul>	prdval)
ANALYSIS REQUESTED (For questions, please call 510-620-291	11)
☐ Gross Alpha ☐ Gross Be	eta Gamma Scan
☐ Total Uranium ☐ Total Bel	
☐ Total Radium 💢 🔀 Tritium (*	
☐ Radium-226 ☐ Carbon-	
☐ Radium-228 ☐ Iodine-13	
☐ Radon-222 ☐ Strontiun	n-89, 90 🔲 Isotopic Uranium
Other (Specify); Nickel-63	3 ☐ Iron-55
CHAIN OF CUSTODY	
Date Name (Print)	8/3/11
0945 Place	Date
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	Date
Time Custody, Received Organization	
Date (Print)	
11.00 DUDRIB	Date Date
Time Custody Received Organization	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank)	1. 10. P. (110)
A. Condition at Time of Receipt:	1 MR/HR
U Holding Time Exceeded . U Sample Not Cooled	☐ Leaked in Transit ☐ Improper Container ☐ Insufficient Sample .
3. Preservatives/Carriers:	
Added While Sampling     Added in Laboratory	☐ Not Added ☐ Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0769

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 10/10/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code**: 95814-5006 **Phone**: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 08/03/2011 11:00 Date/Time Received: 08/04/2011 11:00

Site Name: Diablo Canyon NPP

Source Name: DCNPP / August 2011

**R Number:** R 92462

Sample Type: Drinkingwater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0769-001	Bio Lab Sink	EPA 906.0	Tritium	-17.9 <b>±</b> 144	248	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

		ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Bra 850 Marina Bay Parkway, G164	anch	Date Received	Lab No. (Leave Blank)
Richmond, CA 94804		Control of the Contro	Serial Number
510-620-2911		Date & Time Sampled	
42.2		₹3/11 – 0945 TReporting Information	R 92462
Collector Information Name:		Reporung Information Name:	
Dent./Branch:		Dept./Branch:	
Address: P.O. P.X S.C.	anio 1	Address:	
Name: Dept./Branch: Address: ALMA BEACH, CAT Telephone No.: 1500 545-4409	79924	Telephone No.:	
Sample Information		elephone No.:  Billing Agency	
System Name / Facility: RIO LAB		D DWFOB() RHB D	RWQCB() DTSC
Sampling Point (s):			DWR CDFG
1)1/12		☐ EMB ☐ Other (Spe	
System No.:			
TYPE OF SAMPLE (Check all applicable box	and the second s		
☐ Diffinking Water ☐ Ground ☐ Raw ☐ Water T	lwater Treatment Plant (WTP) 【	Surface Water Distribution System	☐ Wastewater ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chlora			
☐ Air Filters	Date/Time	Seawater	☐ Sludge (Semi-solid Samples)
Finishing:		Milk	☐ Soil/Sediment
Starting:		Wipes	☐ Biota (Type):
Net (M³)		Radon Canister	Or Other: TRAININ SAMPLE
☐ Air Charcoal Cartridge			
Continue to the last			
COMMENTS: (Cautions, etc.):	******	ced/Frozen: C	Other:
☐ Field Treatment: Preservatives added:		Section 1 to 1	
Field Measurement:	4	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and			
ANALYSIS REQUESTED (For questions, ple	ease call 510-620-2911)	<u> </u>	
☐ Gross Alpha	☐ Gross Beta		
☐ Total Uranium	☐ Total Beta (	dr	
☐ Total Radium	✓ Tritium ( <sup>3</sup> H)	To the state of th	Americium / Curium
☐ Radium-226	☐ Carbon-14	3	
☐ Radium-228	☐ lodine-131	☐ Isotopic 1	
☐ Radon-222	☐ Strontium-8	9,90 🔲 Isotopic l	Jranium ·
Other (Specify);	Nickel-63	☐ Iron-55	
CHAIN OF CUSTODY			.//
1. S/3/// Touthout Name (Print)		A H	8/3/1/ Date
0945 PG.L		1/2/2/	<u> </u>
Time Custody Received Organization		Signature	Time Custody Released
Date Name ( rint)		Contract to the second	Date
Time Custody Received Organization	. 14	Signature	Time Custody Released
3. Date SCHI) Name (Print)	<u> </u>	-1-04	Date Date
77.00	URLB	- Dudona M.	<u>lla la </u>
Time Custody Received Organization		Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank)	L0.0	MR/HP	
A. Condition at Time of Receipt:		2	
		☐ Leaked in Transit ☐ Insufficient Sample	☐ Improper Container
B. Preservatives/Carriers:	ddad in Laboratory	III Not Added	



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0766

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/22/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 08/03/2011 09:30 Date/Time Received: 08/04/2011 11:15

Site Name: Diablo Canyon NPP

Source Name: DCNPP / August 2011

R Number: R 92429

Sample Type: Surface Water

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0766-001	Diablo Creek	EPA 901.1	K-40	36.3 ± 18.0	82.9	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

California Department of Public Health REQUEST FOR SAMPLE ANALYSIS (Radiochemical) Date Received Lab No. (Leave Blank) Sanitation and Radiation Laboratories Branch \_0766 850 Marina Bay Parkway, G164 Richmond, CA 94804 & Time Sampled Serial Number 510-620-2911 Reporting Information Collector Information Name: Name: TOM HOOK Dept./Branch: Dept./Branch: P.D. BOX SLO AVILA BEACH, CA 93442 Address: Address: Telephone No.: 805 345-4409 Telephone No.: Billing Agency Sample Information DIABLO CREEK System Name / Facility: DWFOB() ☐ RHB ☐ RWQCB() ☐ DTSC Sampling Point (s): ☐ DWTPB ☐ FDB ☐ DWR CDFG **EMB** ☐ Other (Specify) System No.: TYPE OF SAMPLE (Check all applicable boxes) Groundwater Drinking Water Surface Water Wastewater Water Treatment Plant (WTP) Distribution System Raw Point of Use (POU) Treated (circle one): Chlorinated / Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted ☐ Air Filters Date/Time Seawater ☐ Sludge (Semi-solid Samples) Milk ☐ Soil/Sediment Finishing: Wipes Starting: ☐ Biota (Type): Net (M<sup>3</sup>) Radon Canister Other: ☐ Air Charcoal Cartridge COMMENTS: (Cautions, etc.): ☐ Field Treatment: Preservatives added: ed/Frozen: Other: Radionuclide(s), if known: mR/hr of ☐ Field Measurement: Rush/Priority (should be prearranged and have supervisory approval) ANALYSIS REQUESTED (For questions, please call 510-620-2911) ☐ Gross Beta Gross Alpha Gamma Scan □ Total Uranium ☐ Total Beta (LSC) ■ NORM (Gamma) ☐ Total Radium ☐ Tritium (<sup>3</sup>H) ☐ Isotopic Americium / Curium □ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium ☐ Radium-228 O lodine-131 ☐ Isotopic Thorium ☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium Other (Specify); ☐ Nickel-63 ☐ Iron-55 CHAIN OF CUSTODY Name (Print) Organization Time Custody Received Time Custody Released Name (Print) Date Time Custody Received Organization Signature Time Custody Released Name (Print) Date

A. Condition at Time of Receipt:	COOMR/HR		
The state of the s		Leaked in Transit Insufficient Sample	☐ Improper Container
B. Preservatives/Carriers:	led in Laboratory	Not Added	Not Applicable

Time Custody Released

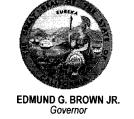
Time Custody Received

Organization



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0767

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 10/10/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 08/03/2011 09:30 Date/Time Received: 08/04/2011 11:00

Site Name: Diablo Canyon NPP

Source Name: DCNPP / August 2011

R Number: R 90044

Sample Type: Surface Water

Sample ID

**Sampling Point** 

**Method** 

**Parameter** 

Result ± CE

MDA95

Units

N11-0767-001

Diablo Creek

EPA 906.0

Tritium

21.9 ± 145

248

pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

California Department of Public Health State of California - Health and Welfare Agency REQUEST FOR SAMPLE ANALYSIS (Radiochemical) Lab No. (Leave Blank) Date Received Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 - ()767 Richmond, CA 94804 Date & Time Sampled Serial Number 510-620-2911 11-0930 Reporting Information Collector Information TOM HOOK P.O. BY SU AVILA BEACH, CA 93424 Name: Name: Dept./Branch: Dept./Branch: Address: Address: ëlephone No **S**illing Agency Sample Information System Name / Facility: DWFOB() RHB RWQCB() ☐ DTSC Sampling Point (s): ☐ FDB ☐ DWR CDFG **DWTPB EMB** ☐ Other (Specify) System No.: TYPE OF SAMPLE (Check all applicable boxes) Groundwater Surface Water Water Treatment Plant (WTP) Distribution System Wastewater Drinking Water Point of Use (POU) ☐ Raw Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Date/Time Seawater ☐ Sludge (Semi-solid Samples) □ Air Filters Milk □ Soil/Sediment Finishing: Wipes ☐ Biota (Type): Starting: Other: TRITIUM SAMPLE Radon Canister Net (M<sup>3</sup>) ☐ Air Charcoal Cartridge **COMMENTS:** (Cautions, etc.): ☐ Field Treatment: Preservatives added: lced/Frozen: Other: ☐ Radionuclide(s), if known: mR/hr ☐ Field Measurement: Rush/Priority (should be prearranged and have supervisory approval) ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha ☐ Gross Beta® Gamma Scan ☐ Total Beta (LSC) □ NORM (Gamma) ☐ Total Uranium Tritium (<sup>3</sup>H) □ Total Radium ☐ Isotopic Americium / Curium ☐ Carbon-14 Isotopic Plutonium ☐ Radium-226. Isotopic Thorium ☐ Radium-228 ☐ lodine-131 ☐ Strontium-89, 90 ☐ Isotopic Uranium ☐ Radon-222 Other (Specify); ☐ Nickel-63 ☐ Iron-55 . CHAIN OF CUSTODY Name (Print) Date Daté Time Custody Paceived Organization Time Cú ody Released 2. Name (Print) Date Date Organization Time Custody Released Time Custody Received Signature

Time Custody Received O	rganization		Signature	Time Custody Released
LABORATORY REMARKS (L		C- 0.011	18/NIA	
A. Condition at Time of Receip		on Container	D Leaked in Transit	□ Improper Container
☐ Holding Time Exceeded		le Not Cooled	√ □ Insufficient Sample	
B. Preservatives/Carriers:				
☐ Added While Sampling	" D Adde	t in Laboratory 🤞	F) Not Added	□ Not Applicable

Date

Lab 803 (11/07)

11:00

Name (Print)

NRL

3.



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0735

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/22/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 07/18/2011 07:46 Date/Time Received: 07/19/2011 11:45

Site Name: Diablo Canyon NPP

Source Name: DCNPP / July 20111

**R Number:** R 92471

Sample Type: Surface Water.

**Sampling Point** 

**Method** 

<u>Parameter</u>

Result ± CE

MDA95

<u>Units</u>

Sample ID 358 ± 18.3 62.5 pCi/L **Outfall Water** EPA 901.1 N11-0735-001 K-40

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	ANALYSIS (Radiocnemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	2 2/19/11 1 NI-0735
Richmond, CA 94804 510-620-2911	Date & Time Sampled Serial Number
	7/18/11 0746 R 92471
Collector Information	Reporting Information
Name: Ton Hook Dept./Branch: po Box 56 Address: Avila Beach, CA 93424	Name: Dept./Branch:
Dept./Branch: Pr Box 56	Address:
Avila Beach, CA 93424	
Telephone No.: 805-545-44-09	Telephone No.:
Sample Information	Billing Agency  D DWFOB() D RHB D RWQCB() DTSC
System Name / Facility: DCPP OUTFALL Sampling Point (s):	D DWFOB() D RHB D RWQCB() D DTSC D DWTPB D FDB D DWR D CDFG
System Name / Facility: DCPP OUTFALL Sampling Point (s):  System No.:  OUT	☐ EMB ☐ Other (Specify)
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater	Surface Water Distribution System Wastewater Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	kide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	Milk  Soil/Sediment
Starting:	☐ Wipes ☐ Biota (Type):
Net (M³)	Radon Canister
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	
	ced/Frozen: Other:
	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory appr	(Val)
ANALYSIS REQUESTED (For questions, please call 510-620-2911	
☐ Gross Alpha ☐ Gross Beta	a ☐ Gamma Scan
☐ Total Uranium ☐ Total Beta	(ESC) NORM (Gamma)
☐ Total Radium ☐ Tritium (³H	Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14	☐ Isotopic Plutonium
☐ Radium-228 ☐ lodine-131	☐ Isotopic Thorium
□ Radon-222 □ Strontium-	89, 90 🔲 Isotopic Uranium
Other (Specify); Nickel-63	☐ Iron-55
CHAIN OF CUSTODY	
1. 2/18/11 Rich Trainers	1/1/1/ - 7/18/11
Date Print DG & E	Date (1700)
Time Custody Received Organization	Signature Time Custody Released
2.	
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
3. Date / (Q/ t   Name (Print)	Date
11:44 DINBLB	12.12 0101
Time Custody Received Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank)	10/110
A. Condition at Time of Receipt:	
Acceptable     Broken Container     Holding Time Exceeded     Sample Not Cooled	☐ Leaked in Transit ☐ Improper Container
Holding Time Exceeded	LL Insufficient Samole
Holding Time Exceeded	Insufficient Sample



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0736

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 10/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Site Name: Diablo Canvon NPP

Collector's Name: Tom Hook

Source Name: DCNPP / July 2011

R Number: R 90862

Sample Type: Surface Water Seaucher

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0736-001
 Outfall Water
 EPA 906.0
 Tritium
 -152 ± 154
 271
 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LL PO5 divided by 2.33, the afficiency and the sample specific minimum detectable activity at the 95% confidence level, which is the LL PO5 divided by 2.33, the afficiency and the sample specific minimum detectable activity at the 95% confidence level, which is the LL PO5 divided by 2.33, the afficiency and the sample specific minimum detectable activity at the 95% confidence level.

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

Sanitation and Radiation Laboratories Branch		NALYSIS (Radiochemical)  Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164		4(9/11	N14-0736
Richmond, CA 94804 510-620-2911		Date & Time Sampled	Serial Number
510-020-2911		7/18/11 0746	l R 90862
Collector Information		teporting Information	
Name: Tou Hook		lame:	
Dept./Branch: Po Box 56		ept./Branch: (ddress:	$oldsymbol{\lambda}$ , $oldsymbol{\lambda}$ , $oldsymbol{\lambda}$
Address: Avila Beach, (A 93424	# _ <b>_</b>		
Telephone No. 805-545-4409		elephone No.:	
Sample Information System Name / Facility: DCPP OUTFALL	100	Billing Agency	
System Name / Facility: 1/CP/ 001 PPFCC Sampling Point (s):	F	DWFOB() CRHB DWTPB CFDB	☐ RWQCB() ☐ DTSC ☐ DWR ☐ CDFG
Sampling Form (8).	40		Specify)
System No.: OUT			
TYPE OF SAMPLE (Check all applicable boxes)	Į.		
☐ Drinking Water ☐ Groundwater		Surface Water	Wastewater
☐ Raw ☐ Water Treatment	Plant (WIP)	Distribution System	Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated /	Chlorine Dioxic	e / Ozonated / Peroxizone / F	nuoridated / Coagulated / pri Adjusted
⊒ Air Filters Date/Time	Ç	) Seawater	☐ Sludge (Semi-solid Samples)
Finishing:		) Milk	☐ Soil/Sediment
Statting:		Wipes	☐ Biota (Type):
Net (M³)		Radon Canister	Other: Trifium Same
☐ Air Charcoal Cartridge			
Control of the Contro			
COMMENTS: (Cautions, etc.):	<del>-                                    </del>	ęd/Frozen:	
Field Treatment: Preservatives added:			
Field Measurement:m	3. 7	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have sup	ervisory appro	al)	
ANALYSIS REQUESTED (For questions, please call 5	510-620-#911)		
☐ Gross Alpha	☐ Gross Beta	☐ Gamn	na Scan
☐ Total Uranium (	🔳 Total Beta (🎚	SC) 🔲 NORM	И (Gamma)
☐ Total Radium	☐ Tritium ( <sup>3</sup> H)	the state of the s	ic Americium / Curium
☐ Radium-226	☐ Carbon-14	☐ Isotop	ic Plutonium
☐ Radium-228	☐ lodine-131 🖟	🚨 Isotop	oic Thorium
☐ Radon-222	☐ Strontium-8	, 90 🚨 Isotop	oic Uranium
Other (Specify);	⊒ે Nickel-63 ૈ	☐ Iron-5	5 - 1. 1 - 1 - 1. 1 - 2. 1 - 1 - 1 - 1 - 1
CHAIN OF CUSTODY			aliely
1. 7/18/11 /KILL / reine	<u>-n</u> "		7/18/11
Date Name (Print) PEFE		- //5/14/	Date 1700
Time Custody Received Organization		Signature	Time Custody Released
2			
Date Name (Print)			Date
Time Custody Received Organization	market to the state of the stat	Signature	Time Custody Released
3. 2/19/11 Name (Print)			Date
Date 11:US Name (Print)		19. thum	V. Date
Time Custody Received Organization		Signature Community	Time Custody Released
ABORATORY REMARKS (Leave Blank)	∠ 0.01 M	KIHR	
A. Condition at Time of Receipt:			
Acceptable D Broken Conta		Leaked in Transit     Insufficient Sample	☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not 0		a mountour sample	
3. Preservatives/Carriers:			



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0712

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 07/19/2011

Requestor

Name: Tom Hook

Organization: Radiologic Health Branch

Address: P.O. Box 56

City: Avila Beach

State: CA

Zip Code:

Phone: 805-545-4409

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 07/13/2011 14:40 Date/Time Received: 07/14/2011 11:25

Site Name: Diablo Canyon NPP

Source Name: DCNPP / July 2011 Sample Type: Surface Water

R Number: R 92469

Sample ID

Sampling Point

Method

**Parameter** 

Result ± CE

MDA95

**Units** 

Diablo Creek

N11-0712-001

EPA 901.1

K-40

29.1 ± 17.3

80.1

pCi/L

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

State of California - Health and Welfare Agency REQUEST FOR SAMPLE ANALYSIS (Radiochemical) ab No. (Leave Blank) Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 Date & Time Sampled 510-620-2911 3/11-1440 Reporting Information Collector information Name: on Hook Name: Dept./Branch: Dept./Branch: Address: Address: Telephone No.: Telephone No.: /205) CVC-4409 Billing Agency Sample Information □ DTSC ☐ RHB ☐ RWQCB() DWFOB( ) System Name / Facility: ☐ FDB CDFG DWR DWTPB Sampling Point (s): ☐ Other (Specify) \_ □ EMB System No.: TYPE OF SAMPLE (Check all applicable boxes) ■ Wastewater Surface Water ☐ Drinking Water ☐ Raw ☐ Groundwater ☐ Water Treatment Plant (WTP) ☐ Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted ☐ Sludge (Semi-solid Samples) Seawater Date/Time ☐ Air Filters □ Soil/Sediment ☐ Milk Finishing: ☐ Biota (Type): \_\_\_\_\_ 🗖 Wipes Starting: Other: Radon Canister Net (M3) ☐ Air Charcoal Cartridge COMMENTS: (Cautions, etc.): Other: ced/Frozen: ☐ Field Treatment: Preservatives added: Radionuclide(s), if known: \_\_ mR/hr ☐ Field Measurement: ☐ Rush/Priority (should be prearranged and have supervisory approval) ANALYSIS REQUESTED (For questions, please call 510-620-2911) ☐ Gamma Scan ☐ Gross Beta Gross Alpha NORM (Gamma) ☐ Total Beta (ESC) □ Total Uranium isotopic Americium / Curium ☐ Tritium (<sup>3</sup>H). ☐ Total Radium ☐ Isotopic Plutonium ☐ Carbon-14 □ Radium-226 □ lodine/131/ 1/4 ☐ Isotopic Thorium □ Radium-228 Isotopic Uranium ☐ Strontium-89, 90 ☐ Radon-222 □ Iron-55 ☐ Nickel-63 □ Other (Specify); CHAIN OF CUSTODY Time Custody Released Time Custody Received 2. Date Name (Print) Date Time Custody Released Signature Organization Time Custody Received Date Name (Print) Time Custody Released Signature (0.02 MR) LABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Improper Container Leaked in Transit **Broken Container** Acceptable

Insufficient Sample

Not Added

**Not Applicable** 

Sample Not Cooled

Added in Laboratory

 Holding Time Exceeded Preservatives/Carriers:

Added While Sampling



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0713

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 10/07/2011

Requestor

Name: Tom Hook

Address: P.O. Box 56

City: Avila Beach

State: CA

Date/Time Collected:

Zip Code:

Phone: 805-545-4409

Site and Sample Information

Collector's Name: Tom Hook

Site Name: Diablo Canyon NPP

R Number: R 92461

7/13/11

Organization: Radiologic Health Branch

14:40

Date/Time Received: 07/14/2011 13:41

Source Name: DCNPP / July 2011

Sample Type: Surface Water

Sample ID

**Sampling Point** 

<u>Method</u>

**Parameter** 

Result ± CE

MDA95

**Units** 

N11-0713-001

Diablo Creek

EPA 906.0

Tritium

-53.8 ± 156

271

pCi/L

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

KEQUEUT OK CAME E	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804	Date Received Lab No. (Leave Blank)  2/14/11  VII-0713
510-620-2911	Date & Time Sampled Serial Number R 92461
Collector Information  Name:  Dept./Branch:  Address:  AULA BEAGI, CA 93424	Reporting Information Name: Dept./Branch: Address:
Telephone No.: 1805) 545-4409	Telephone No.:
Sample Information System Name / Facility: DIABID GIFFIL Sampling Point (s):  552	Billing Agency  DWFOB() RHB RWQCB() DTSC  DWTPB FDB DWR CDFG  EMB Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	Surface Water
Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
	D Milk Soil/Sediment
Finishing:	
Starting:	
Net (M³)  2 Air Charcoal Cartridge	Radon Canister Other: Think Adailt
COMMENTS: (Cautions, etc.):  2 Field Treatment: Preservatives added:	ced/Frozen: Other:
그는 그 그들은 그는 그를 가는 것이 되었다. 그는 그를 가는 것이 되었다. 그는 그를 가는 그를 가는 것이 되었다. 그를 가는 것이 없다.	
☐ Field Measurement:mR/hr ☐ Rush/Priority (should be prearranged and have supervisory appr	Radionuclide(s), if known:
ANALYSIS REQUESTED (For questions, please call 510-620-2911	
☐ Gross Alpha ☐ Gross Bet	a Gamma Scan
☐ Total Uranium ☐ Total Beta	
☐ Total Radium ☐ Tritium (³H	
☐ Radium-226 ☐ Carbon-14	
☐ Radium-228 ☐ Iodine-131	A
☐ Radon-222 ☐ Strontium-	
Other (Specify); Nickel-63	☐ Iron-55
CHAIN OF CUSTODY	
Date Name (Print)	15 / 15/11
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	Signature Time Custody Released  Date
Time Custody Received Organization	*Signature Time Custody Released
1. 1/1/11 1/ 1/ N	Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization RLB	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank)  Condition at Time of Receipt:  Acceptable  Holding Time Exceeded  Preservatives/Carriers:	Leaked in Transit Improper Container Insufficient Sample



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0709

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 07/19/2011

Requestor

Name: Tom Hook

Organization: Radiologic Health Branch

Address: P.O. Box 56

City: Avila Beach

State: CA

Zip Code:

Phone: 805-545-4409

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 07/13/2011 14:26 Date/Time Received: 07/14/2011 11:25

Source Name: DCNPP / July 2011

Site Name: Diablo Canyon NPP R Number: R 92472

Sample Type: Drinkingwater

Sample ID

**Sampling Point** 

**Method** 

<u>Parameter</u>

Result ± CE

MDA95

**Units** 

N11-0709-001

Bio Lab Sink

EPA 901.1

K-40

 $0.945 \pm 17.6$ 

83.0

pCi/L

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR S	AMPLE ANALYSIS (Radiochemica	al) 👫 🦠 😘 😘 💮 😘 💮
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	Date Received	Lab No. (Leave Blank) VA 42:-160 N11-036
Richmond, CA 94804 510-620-2911	Date & Time Sampled 7//3/// 142C	Serial Number R 92472
Collector Information Name: Ton Hook Dept./Branch: P.O. Bix 56 Address: AULA BEACH, CA 93424	Reporting Information Name: Dept./Branch: Address:	
Telephone No.: 1805 545 4409	Telephone No.:	
Sample Information System Name / Facility: BIO LAB Sampling Point (s):  DW1	Billing Agency DWFOB() RHB DWTPB FDB EMB Other	
YPE OF SAMPLE (Check all applicable boxes)		
Drinking Water Groundwater Raw Groundwater Water Treatment Plan		☐ Wastewater ☐ Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorinated / Chlori		<del>na na katan kana kana kana kana kana kan</del>
Air Filters Date/Time Finishing:	Seawater  Milk	☐ Sludge (Semi-solid Samples) ☐ Soil/Sediment
Starting:	Wipes	☐ Biota (Type):
Net (M³)	Radon Canister	Other:
Air Charcoal Cartridge		
OMMENTS: (Cautions, etc.):		
Field Treatment: Preservatives added:	/ced/Frozen:	Other:
Field Measurement: mR/hr	Radionuclide(s), if known	
Rush/Priority (should be prearranged and have supervise		
ANALYSIS REQUESTED (For questions, please call 510-6	20-2911).	
☐ Gross Alpha	ross Beta 🕻 🔑 Gan	nma Scan
I Total Uranium	otal Beta (LSC)	RM (Gamma)
Total Radium Tr	itium (³H). 🚨 Isoto	opic Américium / Curium
Radium-226	arbon-14 🗓 Isoto	opic Plutonium
Radium-228	dine-131 🗼 🔲 Isoto	opic Thorium
		opic Uranium
Other (Specify);	ckel-63	<b>-55</b>
CHAIN OF CUSTODY  Jate Name (Print)		Date 1700
Time Custody Received Organization	Signeture /	Time Custody Released
Date Name (Print)		Date
Time Custody Received Organization	Signature	Time Custody Released
Date Name (Print)	20-1-10	Date
Time Custody Received Organization	Signature Signature	Time Custody Released
☐ Acceptable . \ ☐ Broken Container	MR/Hr	, }
□ Holding Time Exceeded □ Sample Not Cooled  Preservatives/Carriers:	<u></u>	
<ul> <li>Added While Sampling</li> <li>Added in Laborator</li> </ul>	y 💹 Not Added 🔑 🤌	Not Applicable



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0711

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 10/07/2011

Requestor

Name: Tom Hook

Address: P.O. Box 56

City: Avila Beach

Organization: Radiologic Health Branch

State: CA

Zip Code:

Phone: 805-545-4409

Site and Sample Information

Collector's Name: Tom Hook

Site Name: Diablo Canyon NPP

R Number: R 92460

Date/Time Collected: 07/13/2011 14:26 Date/Time Received: 07/14/2011 10:55

Source Name: DCNPP / July 2011

Sample Type: Drinkingwater

Sample ID

**Sampling Point** 

**Method** 

**Parameter** 

Result ± CE

MDA<sub>95</sub>

<u>Units</u>

N11-0711-001

Bio Lab Sink

-116 ± 155

271

EPA 906.0 Tritium

pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

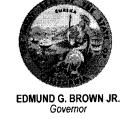
Lab 803 (11/07)

	REQUEST FOR SAMPL	E ANALYSIS (Radio	chemical)	
Sanitation and Radiation		Date Reco	eived	Lab No. (Leave Blank)
850 Marina Bay Parkway, Richmond, CA 94804	G104	7/1/1		MIL-NAIN
510-620-2911		Date & Time!	Sampled	Serial Number
		7/3/11	1426	R 92460
Collector Information 🚁		Reporting Informa		N 32400
Name: Tom	HOOK	Name:		
Dept./Branch:	×56	Dept./Branch:		
AVIA	X 570 BEACH, CA 93424	Address:		
Telephone No.: 🏠 👌	THE WING	elephone No.:		
Sample Information (		Billing Agency		
System Name / Facility:	WHELD ESTEEN BIO LA	DWFOB()	CIRHB CI	RWQCB() DTSC
Sampling Point (s):	Win 1	D DWTPB	🗆 FDB - 🔘 i	DWR 🔲 CDFG
System No.:	THE DWI	□ EMB	Other (Spec	pify)
YPE OF SAMPLE (Check	x all applicable hoves)		gd <sub>f</sub>	
Drinking Water	Groundwater	Ourface Mister		
Raw	Water Treatment Plant (WTF	Surface Water Distribution System	m (	☐ Wastewater ☐ Point of Use (POU)
Treated (circle one): Cl	hlorinated / Chloraminated / Chlorine Di	oxide / Ozonated / Per	oxizone / Fluori	dated / Coagulated / 5U Adimeter
l Air Filters				autour Coagulateur pri Aujuste
	Date/Time	☐ Seawater		Sludge (Semi-solid Samples)
Finishing:		Milk Milk	· · · · · · · · · · · · · · · · · · ·	☐ Soil/Sediment
Starting:		☑ Wipes		☐ Biota (Type):
Net (M³)		Radon Canister		Other: purious SHIPCE
Air Charcoal Cartridge			: 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	HATTON SHAPE
OMMENTO (O-4:	And the second s			
OMMENTS: (Cautions, e		and processing the second		
Field Treatment: Pres		ced/Frozen:		ner:
Field Measurement:	mR/hr /	Radionuclide(s),	f known:	
Rush/Priority (should be	prearranged and have supervisory app	roval)		
NALYSIS REQUESTED (	For questions, please call 510-620-291	1)		
Gross Alpha	☐ Gross Be	ta	☐ Gamma Sc	<b>nn</b>
Total Uranium	☐ Total Beta	₩.	☐ NORM (Ga	And the second of the second o
Total Radium	☐ Tritium (³I			
Radium-226	☐ Carbon-1	<b>1</b>	☐ Isotopic An	nericium / Curium
Radium-228	☐ lodine-13			
Radon-222	☐ Strontium	3	Isotopic The	
Other (Specify);			Isotopic Ura	<b>inium</b>
IAIN OF CUSTODY	- Inickei-83		☐ Iron-55	
7/17/11	Ton thank			
Date	Name (Print)	*1/1/		Date / 13/1/
Time Custody Press	Phit )	1 Buch		6700
Time Custody Received	Organization	Signature 77		Time Custody Released
Date	Name (Print)	The same of the sa	7	
		MK.		Date
Time Custody Received	Organization 1 * M	Signature		Time Custody Released
Date /- /4-11	Name (Print)			
= 10:55 ann	$D(u, 0) \in Q$	19. T.	10 2/1 01	Date
Time Custody Received	Organization VV ( )	Signature Co	rece // Well	Time Custody Released
BORATORY REMARKS	(Leave Blank)	rince		
Condition at Time of Reci	olpt: < 0.01.41B/Hr			
☐ Acceptable ☐ Holding Time Exceede	Broken Container	☐ Leaked in Transit		☐ Improper Container
	ad	<ul> <li>Insufficient Sample</li> </ul>		
Preservatives/Carriers:				
☐ Added While Sampling	Added in Laboratory	☐ Not Added		D. Not Applicable



#### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0638

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/23/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Date/Time Collected: 06/13/2011 07:30 Date/Time Received: 06/14/2011 11:30

Site Name: Diablo Canyon NPP

Source Name: DCNPP / June 2011 Sample Type: Seawater

R Number: R92432

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0638-001
 Outfall Water
 EPA 901.1
 K-40
 417 ± 22.5
 83.1
 pCi/L

Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	SAMPLE ANALYSIS	(Radiochemical)	
Sanitation and Radiation Laboratories Branch	Contract of	ate Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804	61.	14111	NII-06381
510-620-2911	, Date	& Time Sampled	Serial Number
	6/13/		R 92432
Collector Information	Reporting I	nformation	
Name: Dept./Branch: Total Hook Dept./Branch: Total Hook	Name:	<b>.</b>	
Dept./Branch: P.O. BIX 51 Address:  AVILA BEACH, CA 93424	Dept./Branc Address:	n:	
Telephone No.: (805) 545-4409	Telephone N		and the second s
Sample Information System Name / Facility: DCPP DUTFALL	Billing Age	· ·	DWOOD ( ) D DTOO
Sampling Point (s):	D DWFOB		RWQCB() DTSC DWR DCDFG
	EMB		cify)
System No.:			
TYPE OF SAMPLE (Check all applicable boxes)			
Drinking Water Groundwater	Surface V	Nater	Wastewater (DOLI)
☐ Raw ☐ Water Treatment Plan ☐ Treated (circle and): Chlorinated (Chloriminated		•	Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chl	onne Dioxide / Ozonate	30 / Peroxizone / Fluor	idated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:	Milk		☐ Soil/Sediment \
Starting:	Wipes		☐ Biota (Type):
Net (M <sup>3</sup> )	Radon Ca		Other:
Air Charcoal Cartridge			
		· · · · · · · · · · · · · · · · · · ·	
COMMENTS: (Cautions, etc.):	<del></del>		The state of the s
Field Treatment: Preservatives added:			her:
Field Measurement:mR/hr		:lide(s), if known:	
☐ Rush/Priority (should be prearranged and have supervised)	sory approval)		
ANALYSIS REQUESTED (For questions, please call 510-6	620-2911) 🖟		
☐ Gross Alpha ☐ G	iross Beta ∤	Gamma S	can
☐ Total Uranium	otal Beta (t;SC)	NORM (Ga	
☐ Total Radium ☐ T	ritium (³H)		mericium / Curium
	arbon-14	☐ Isotopic PI	utonium
	odine-131	☐ Isotopic Th	norium
<b>1</b> Radon-222 □ S	trontium-89, 90	☐ Isotopic Ui	ranium
Other (Specify);	lickel-63	☐ Iron-55	
CHAIN OF CUSTODY			K
: 6/13/11 /UM HOOK	-		6/13/11
Date Name (Print)	1/6	$\mathcal{L}$	Date
Time Custody Received Organization	Signature	as promo	Time Custody Released
Date Name (Print)			Date
Time Custody Received Organization	Signature		
· A TAN	Signature		Time Custody Released
Date / Name (Print)		A . •	Date
Time Custody Received Organization DDWRL	Signature	lat la	Time Custody Released
ABORATORY REMARKS (Leave Blank)  Condition at Time of Receipt: 0.01	MR/hc=	$\bar{\sigma}$	
□ Acceptable □ Broken Container	111/hC Leaked i	n Transit	☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Coole		ent Sample 1	— improper Cortainer
. Preservatives/Carriers:			
Added While Sampling Q Added in Laborator	ry 😉 Not Adde	<b>M</b>	D Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0639

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 07/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook
Site Name: Diablo Canyon NPP

Date/Time Collected: 06/13/2011 07:30 Date/Time Received: 06/14/2011 11:30

Source Name: DCNPP / June 2011

R Number: R90929

Sample Type: Seawater

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0639-001
 Diablo Canyon
 EPA 906.0
 Tritium
 -62.0 ± 169
 293
 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE		20)
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	Date Received 6/14/1K	Lab No. (Leave Blank)  N11 — 0639
Richmond, CA 94804 510-620-2911	Date & Time Sampled	Serial Number
510-620-2911	6/13/11 1730	7   R 90929
Collector Information	Reporting Information	
Name: Ton Hook: Dept. Branch: 00 Box 56 Address: 4	Name:	
Dept./Branch: Po Box 56	Dept/Branch: Address:	
Address: Avila Beach, CA 93424		
Telephone No.: 86 545 - 4409	relephone No.:	
Sample Information	Billing Agency	T BURGO ( D DTCC
System Name / Facility: DCPP OUTFALL Sampling Point (s):	DWFOB() RHE	RWQCB() DTSC DDWR DCDFG
Sampling Four (5).		er (Specify)
System No.: OUT		
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Blant (MCD)	Surface Water	☐ Wastewater ☐ Point of Use (POU)
☐ Raw ☐ Water Treatment Plant (WTP)		
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	108 / OZUNALEG / FETUALZONE	/ Fluoridated / Coagulated / pri Aujustos
☐ Air Filters Date/Time	Seawater	☐ Sludge (Semi-solid Samples)
Finishing:	Milk	☐ Soil/Sediment
Starting:	Wipes	☐ Biota (Type):
Net (M³)	Radon Canister	Other: Tritice Souple
☐ Air Charcoal Cartridge		
COMMENTS: (Cautions, etc.):		
	(red/Frozen:	Other:
	Radionuclide(s), if know	and the control of th
<ul> <li>Rush/Priority (should be prearranged and have supervisory appre</li> </ul>		
ANALYSIS REQUESTED (For questions, please call 510-620-2911)		
☐ Gross Alpha ☐ Gross Beta	- 1987	amma Scan
☐ Total Uranium ☐ Total Beta	\$	DRM (Gamma)
☐ Total Radium ☐ Tritium (³H		otopic Americium / Curium
☐ Radium-226 ☐ Carbon-14	* <u>#</u>	otopic Plutonium
☐ Radium-228 ☐ Iodine-131	D, Iso	otopic Thorium
☐ Rádidij-222 ☐ Strontium-	8, 90 PP C DATIST	otopic Uranium
Other (Specify); A MN D Nickel-63	DU( ) Iro	
CHAIN OF CUSTODY		-1-1:
1. 6/13/11 Jon Hook	In Man /	6/13/11
Date Name (Print)	Wall	Date 1700
Time Custody Registed Organization	Secretare // Date	Time ustody Released
2		
Date Name (Print)		Date
Time Custody Received Organization	Signature	Time Custody Released
3 A TAN	***	Date
Date Name (Print)  11:30 DDWR1	* Ancola Ta	.a.e
Time Custody Received Organization	Signature	Time Custody Released
LIDODAYADY DEBADYO (Lagra Dlonk)		
LABORATORY REMARKS (Leave Blank)  A. Condition at Time of Receipt:		
Acceptable	Leaked in Transit	☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐	io Insufficient Sample	
B. Preservatives/Carriers:	TO Not Added	D. Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



Units

pCi/L

### FINAL Analysis Results Report for Task ID. N11-0627

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/23/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Site Name: Diablo Canyon NPP

Date/Time Collected: 06/08/2011 09:00 Date/Time Received: 06/09/2011 11:40
Source Name: DCNPP / June 2011

R Number: R92433

Sample Type: Drinkingwater

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95

 N11-0627-001
 Bio Lab Sink
 EPA 901.1
 K-40
 6.93 ± 16.4
 76.6

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and

Lab 803 (11/07)

	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	6/9/11	YII- 0627
Richmond, CA 94804 510-620-2911	Date & Time Sampled	Serial Number
310-020-2911	6/3/11-0900	R 92433
Collector Information	Reporting Information	
Name: Ton Hook	Name:	
Dept./Branch: PO BOX 56 Address:	Dept./Branch: Address:	
AUIGA BEACHICA 171-1	Address.	
Telephone No.: (805) 545 - 4409	Telephone No.:	
Sample Information	Billing Agency	
System Name / Facility: BID LAB	D DWFOB() RHB RWQ	CB() DTSC
Sampling Point (s):	DWTPB DFDB DWR	☐ CDFG
System No.:	☐ EMB ☐ Other (Specify) _	
TYPE OF SAMPLE (Check all applicable boxes)		
Drinking Water Groundwater Raw Water Treatment Plast (WTP)	Surface Water Water	astewater
Treated (circle one): Chlorinated / Chloraminated / Chlorine Dio		int of Use (POU)
☐ Air Filters Date/Time		idge (Semi-solid Samples)
Finishing:		il/Sediment
Starting:	☐ Wipes ☐ Bio	ta (Type):
Net (M <sup>3</sup> )	Radon Canister  Ott	
☐ Air Charcoal Cartridge		
COMMENTS: (Cautions, etc.):		
G Field Treatment: Preservatives added:	ced/Frozen: Other:	<del>andre - Frieder and artist for the second policy and and are second policy are second p</del>
☐ Field Measurement:mR/hr		
☐ Rush/Priority (should be prearranged and have supervisory appr	Radionuclide(s), if known:	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)  Gross Alpha  Gross Beta		
	*	
☐ Total Uranium ☐ Total Beta		
☐ Total Radium ☐ Tritium (³H		
☐ Radium-226 ☐ Carbon-14		<b>m</b>
☐ Radium-228 ☐ Iodine-131	3	
□ Radon-222 - □ Strontium-t		
☐ Other (Specify); ☐ Nickel-63	<b>□</b> Iron-55	
1. 6/2/11 Trus fook		1/2/
Date Name (Print)		<u> </u>
DINU Pack	1 bullan	1700
Time Custody Received Organization 2.	Signature	Time Custody Released
Date Name (Print)		Date
Time Custody Received Organization	Signature	Time Custody Released
3. Date 6/9/11 Name (Print)		
11:40 DWPIR	Angel House	Date
Time Clustody Received Organization DWRLB	Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank)		
A. Condition at Time of Receipt:  OOIMR/W  Broken Container		
☐ Acceptable ☐ Broken Container ☐ Broken Container ☐ Sample Not Cooled	Leaked in Transit	Improper Container
B. Preservatives/Carriers:	- "The state of the state of th	
Added While Sampling     Added in Laboratory	D Not Added	Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0628

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 07/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 06/08/2011 09:00 Date/Time Received: 06/09/2011 11:40

Site Name: Diablo Canvon NPP

Source Name: DCNPP / June 2011

R Number: R90956

Sample Type: Drinkingwater

Sample ID

**Sampling Point** 

Method

**Parameter** 

Result ± CE

MDA95

Units

N11-0628-001

Bio Lab Sink

EPA 906.0

Tritium

-73.1 ± 169

293

pCi/L

Precision criteria for these methods were determined to be acceptable.

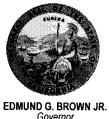
CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE	NALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804	Date Received	Lab No. (Leave Blank) N 11 - 0628
510-620-2911	Date & Time Sampled 6/8/11 - 0900	Serial Number R 90956
Name: Tom HOOK Dept./Branch: P.O. Box 560 Address: AMA BEACH, CA 93424 Telephone No.: (85) 545 44469	Reporting Information Name: Dept./Branch: Address: dephone No.; Billing Agency	
Sample Information System Name / Facility: BIO LAB Sampling Point (s):  System No.:	D DWFOB() DRHB D	RWQCB() DTSC DWR DCDFG cify)
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment Plant (WTP) ☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	Distribution System	☐ Wastewater☐ Point of Use (POU) idated / Coagulated / pH Adjusted
☐ Air Filters Date/Time Finishing:	Seawater Milk Wipes	Sludge (Semi-solid Samples) Soil/Sediment Biota (Type): Other: Tanu Samue
	Radionuclide(s), if known:	her:
ANALYSIS REQUESTED (For questions, please call 510-620-2911)  Gross Alpha  Total Uranium  Total Radium  Tritium (³H)  Radium-226  Radium-228  Radon-222  Other (Specify);  Nickel-63	Gamma Son NORM (Gamma Son NORM (Gamma Son Norm Market) Isotopic An Isotopic Pl	amma) mericium / Curium utonium norium
CHAIN OF CUSTODY  1. Date Name (Print)  Time Custody Received Organization  2. Date Name (Print)	Lung boli-	Date Date
Time Custody Received Organization  Name (Print)  Time Custody Received Organization  Organization	Signature  Signature	Date Time Custody Released
LABORATORY REMARKS (Leave Blank)  A. Condition at Time of Receipt:	Leaked in Transit Insufficient Sample	☐ Improper Container
B. Preservatives/Carriers:	it: D Not Added	D. Not Applicable



#### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0629

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/23/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 06/08/2011 08:52 Date/Time Received: 06/09/2011 11:40

Site Name: Diablo Canyon NPP

Source Name: DCNPP / June 2011

R Number: R91109

Sample Type: Surface Water

Sample ID	Sampling Point	Method	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0629-001	Diablo Creek	EPA 901.1	K-40	-19.7 ± 12.0	57.3	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and

Lab 803 (11/07)

Sanitation and Radiation 850 Marina Bay Parkway, (		Date Received	Lab No: (Leave Blank)
Richmond, CA 94804	<b>3.104</b>	6/9/11/11	NII- 0629
510-620-2911		Date & Time Sampled 6/8/11—0852	R 91109
collector Information		Reporting Information	
lame: Tom 4	look,	Name:	
ddress: P.D. BU AVILA E	100K X 56 3EACH, CA 93424	Dept./Branch: Address:	
elephone No.: (805)	545-4409	Felephone No.:	
ample Information	DIABLO CREEK	Billing Agency	•
System Name / Facility: Sampling Point (s):	552	DWTPB FDB C	RWQCB() DTSC DWR DCDFG pecify)
System No.:			
YPE OF SAMPLE (Check			
Drinking Water Raw Tracted (sizele anal): Ch	Groundwater Water Treatment Plant (W		☐ Wastewater ☐ Point of Use (POU)
<del> </del>		Dioxide / Ozonated / Peroxizone / Flu	oridated / Coagulated / pH Adjust
Air Filters	Date/Time	Seawater	☐ Sludge (Semi-solid Samples
t garage Taller Taller		Milk	☐ Soil/Sediment
	<del></del>	☐ Wipes	☐ Biota (Type):
Net (M³)		Radon Canister	Other:
Air Charcoal Cartridge			
OMMENTS: (Cautions, et	lc.):		
Field Treatment: Pres	ervatives added:	ced/Frozen:	Other:
Field Measurement:	mR/hr	Radionuclide(s), if known: _	
Rush/Priority (should be	prearranged and have supervisory a	ipproval)	
NALYSIS REQUESTED (I	For questions, please call 510-620-2	911)	
Gross Alpha	☐ Gross	Beta∯ Gamma	Scan
Total Uranium	☐ Total B	8	
Total Radium	☐ Tritium	`a `a	Americium / Curium
Radium-226	☐ Carbon	n-14 ☐ Isotopic	Plutonium
Radium-228	☐ lodine-	131 🔲 Isotopic	Thoridan
Radon-222	☐ Strontic	um-89, 90 🔲 Isotopic	Uranium
Other (Specify);	☐ Nickel-	63 🔲 Iron-55	
HAIN OF CUSTODY	-T 1 V		. /5/
Date 0 ==	Torn Hook Name (Print)		<u> </u>
0852	POSE	- Jour Hoch	<i>!700</i>
Time Custody Received	Organization	Signature //	Timé Custody Released
Date	Name (Print)		Date
Time Custody Received	Organization 7	Signature	Time Custody Released
Date	Name (Print)		Date
Time Custody Received	Organization D WRLB	Signature Valor Man	Time Custody Released
ABORATORY REMARKS			
Condition at Time of Recipion Acceptable  Holding Time Exceeds	☐ Broken Container I	Leaked in Transit  Insufficient Sample	☐ Improper Container
Preservatives/Carriers:  Added While Sampling	g	15) Not Added	D Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0630

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 07/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 06/08/2011 08:52 Date/Time Received: 06/09/2011 11:40

Site Name: Diablo Canyon NPP

Source Name: DCNPP / June 2011

R Number: R92425

Sample Type: Surface Water

Sample ID

Sampling Point

Method

<u>Parameter</u>

Result ± CE

MDA95

Units

N11-0630-001 Diablo Creek EPA 906.0 **Tritium** -75.3 ± 169 293 pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	OR SAMPLE AN			
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164		Date Rece		Lab No. (Leave Blank)  N11 - 0630
Richmond, CA 94804 510-620-2911		Date & Time S	Sampled	Serial Number
310-020-2911		6/8/11-08	352	R 92425
Collector Information		porting Informat	tion	
Name: Ton Hook		nme: ept./Branch:		
Dept./Branch: P.O. Boy 56 Address: Aur. 4 BEACH, C4 93424	Ad	ldress:		
Telephone No.: (805) 445 - 4469	-2 610 Ri	lephone No.: Iling Agency	**************************************	
Sample Information System Name / Facility: DIABLO CALEIL.	5		□ RHB □ RW	VQCB() DTSC
	<b>D</b>	DWTPB	□ FDB □ DW	VR CDFG
Sampling Point (s): 5.52	P	EMB	☐ Other (Specify	)
System No.:  TYPE OF SAMPLE (Check all applicable boxes)			: -	
☐ Drinking Water ☐ /Groundwater	Sr	Surface Water		Wastewater
☐ Raw ☐ Water Treatment	t Plant (WTP) 🛍	Distribution Syste	em 🚨	Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated /				ted / Coagulated / pH Adjuste
☐ Air Filters Date/Time	a	Seawater		Sludge (Semi-solid Samples)
Finishing:		Milk		Soil/Sediment
Starting:				Biota (Type):
Net (M <sup>3</sup> )	<del></del>	Radon Canister		Other: TRITUM SHIPLE
□ Air Charcoal Cartridge	<b>5</b>	Nauon Camoto.	<del>بر</del>	Other Harrist Savava
U All Criatoda Cartridge				
COMMENTS: (Cautions, etc.):			<b>* *- N</b> +-	<u></u>
☐ Field Treatment: Preservatives added:		d/Frozen:		r
	<b>A</b>	Radionuclide(s),	if known:	
<ul> <li>Rush/Priority (should be prearranged and have sup</li> </ul>	ervisorý approval	1)		
ANALYSIS REQUESTED (For questions, please call 5	510-620-2911)			
☐ Gross Alpha	☐ Gross Beta		☐ Gamma Scar	n e e e e e e e e e e e e e e e e e e e
	☐ Total Beta LS	(C)	☐ NORM (Gam	
	☐ Tritium (³H)		and the second s	ricium / Curium
	☐ Carbon-14		☐ Isotopic Pluto	
	lodine-131		☐ Isotopic Thor	
	☐ Strontium-89,	90	☐ Isotopic Uran	iium
	☐ Nickel-63 🔔		☐ Iron-55	
CHAIN OF CUSTODY  1. (2) Ton Hook				1/0/11
1. (/8/1) / / / / / / / / / / / / / / / / / /	**	1/0/		Date
0852- PG:F		1/00/10	<i></i>	1700
Time Custody Received Organization 2.	- S	OVERNIE SEAS	4.4	Time Custody Released
Date Name (Print)				Date
Time Custody Received Organization		gnature		Time Custody Released
3. Gleina / A Trans		gradio		toju s <u>kulju su jojustki si s</u> e
Date Name (Print)		A of	<b></b>	Date
Time Custody Received Organization		gnature Class	1900	Time Custody Released
LABORATORY REMARKS (Leave Blank) A. Condition at Time of Receipt:	0.02MR/(;"			
☐ Acceptable ☐ Broken Conta	ainer / N O	Leaked in Transi		☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not (	Cooled	Insufficient Samp	)le elic	
B. Preservatives/Carriers:	voratony	Not Added		□ Not Adolicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



#### FINAL Analysis Results Report for Task ID. N11-0555

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/01/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Site Name: Diablo Canvon NPP

Collector's Name: Tom Hook

Date/Time Collected: 05/11/2011 07:58 Date/Time Received: 05/12/2011 13:15

Source Name: DCNPP / May 2011

R Number: R92415

Sample Type: Seawater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0555-001	Outfall Water	EPA 901.1	K-40	381 ± 18.0	58.8	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	5/12/11	NII- 0555
Richmond, CA 94804 510-620-2911	Date & Time Sampled	Serial Number
J 10020 25.	5/11/11-0758	R 92415
Collector Information	Reporting Information	
Name: Ton Hook	Name:	
Dept./Branch: Address: P.O. BDX 50	Dept./Branch: Address:	
AULA BEACH, GA 93424	Address.	
Name: Dept./Branch: Tom Hock Address: P.O. BDX 56 AULA BFACH, GA 93424 Telephone No.: (805) 545-4409	Telephone No.:	
Sample information	Billing Agency	
System Name / Facility: DPP DUTFALL Sampling Point (s):		RWQCB() DTSC
Out II		DWR D CDFG
System No.:	CINET (Spec	ify)
TYPE OF SAMPLE (Check all applicable boxes)		
Drinking Water Groundwater	Surface Water	☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WTP)	Distribution System	Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	ide / Ozonated / Peroxizone / Fluorid	dated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater [	Sludge (Semi-solid Samples)
	<u></u>	
	4	Soil/Sediment
Net (M³)		Biota (Type):
	Radon Canister	Other:
☐ Air Charcoal Cartridge		
COMMENTS: (Cautions, etc.):		
	ced/Frozen: Oth	ier:
(144.11.12)	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory appro	" Nacionaciacia, ii known.	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	*	
☐ Gross Alpha ☐ Gross Beta	January Committee Committe	
☐ Total Uraniúm ☐ Total Beta (I	· · · · · · · · · · · · · · · · · · ·	
☐ Total Radium ☐ Tritium (³H)	☐ Isotopic Am	ericium / Curium
Radium-226 Carbon-14	☐ Isotopic Plu	
☐ Radium-228 ☐ Iodine-131		orium
Radon-222 Strontium-89		
Other (Specify); Nickel-63	☐ Iron-55	
CHAIN OF CUSTODY		
1. 5/1/// Juny Hook Name (Print)		5/11/11
Date Name (Print)	The last of the la	Date
Time Custody Received Organization	Signature	Time Custody Released
<b>2.</b> (1)		Time Custody Released
Date Name (Print)		Date
Time Custody Received Organization	Signature	Time Custody Released
3 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
Date / Name (Print)	A Commence of the Commence of	Date
Time Custody Received Organization WRIB	Signature of Ton	Time Custody Delegand
		Time Custody Released
LABORATORY REMARKS (Leave Blank)  A. Condition at Time of Receipt:	Ü	
☐ Acceptable ☐ Broken Container ☐	U Leaked in Transit	☐ Improper Container
	Insufficient Sample	u improper container
B. Preservatives/Carriers:		
☐ Added While Sampling ☐ Added in Laboratory ☐	D Not Added	The block and the second



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0556

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/29/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 05/11/2011 07:58 Date/Time Received: 05/12/2011 13:15

Site Name: Diablo Canyon NPP

Source Name: DCNPP / May 2011

R Number: R92404

Sample Type: Seawater

Sample ID

Sampling Point

<u>Method</u>

**Parameter** 

Result ± CE

MDA95

**Units** 

N11-0556-001

Outfall Water

EPA 906.0

Tritium

-149 ± 148

260

pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

		PLE ANALYSIS (Radiochemic	al)	THE PROPERTY OF THE PARTY OF TH
anitation and Radiation La	boratories Branch	Date Received 5/12/11		No. (Leave Blank)
50 Marina Bay Parkway, G1 ichmond, CA 94804			NI	1 - 0556 Serial Number
10-620-2911		Date & Time Sampled		
		5/11/11-D758		92404
ollector Information		Reporting Information Name:		
ame: Ton Ho	OK 50 AUGCA 93424	Dept./Branch:		#3
ddress:	56	anddress:		
AULA BE	ACAGCA 17424	Elephone No.:	•	<b>V</b>
elephone No.: (305) 54		Billing Agency		3
system Name / Facility:	CAP OUTFALL	D DWFOB() RHE	RWQCB	() DTSC
Sampling Point (s):		D DWTPB		□ CDFG
**************************************	OUT	☐ EMB ☐ Othe	er (Specify)	
System No.:	II applicable hoves)			
YPE OF SAMPLE (Check a	☐ Groundwater	Surface Water	☐ Waste	water
Drinking Water Raw	☐ Water Treatment Plant (W	(TP) Distribution System	☐ Point	of Use (POU)
Treated (circle one): Chlo	orinated / Chloraminated / Chlorine	Dioxide / Ozonated / Peroxizone	/ Fluoridated / C	oagulated / pH Adjusted
	Date/Time €	Seawater		e (Semi-solid Samples)
Air Filters	Date/Times	Milk	☐ Soil/S	· · · · · · · · · · · · · · · · · · ·
Finishing:		Wipes	☐ Biota	
Starting:		Radon Canister		TRATUM BOTTLE
Net (M³)		A Radon Garilloto	<i>A</i> 3	1+11011
Air Charcoal Cartridge				
COMMENTS: (Cautions, etc.	:):			
☐ Field Treatment: Prese	rvatives added:	/ Red/Frozen:	Other:	
Field Measurement:	mR/hr	/// Radionuclide(s), if know	vn:	
Rush/Priority (should be p	prearranged and have supervisory	approval)		
ANALYSIS REQUESTED (F	or questions, please call 510-620-	291)) [		
☐ Gross Alpha	☐ Gross		amma Scan	
☐ Total Uranium	☐ Total	Beta (LSC)	ORM (Gamma)	
☐ Total Radium	☐ Tritiur	m ( <sup>3</sup> H) ੈ □ lso	otopic Americium	/ Curium
Radium-226	☐ Carbo	on-14 📜 Iso	otopic Plutonium	
Radium-228	☐ lodine		otopic Thorium	
Radon-222 🗶	Stron	tium-8 <b>9</b> , 90 🔲 Iso	otopic Uranium	
Other (Specify);	U Nicke	el-63 🖟 🚨 Iro	on-55	/
CHAIN OF CUSTODY		in the second se		
15/1///	Transfort	- 1 / / / /		 Date
Date 7758	Name (Print)	14		1700
Time Cust dy Received	Organization 🌲	1 3 granture		Time Custody Released
2.	Name (Print)			Date
Date	Service & Service			
Time Custody Received	Organization	Signature		Time Custody Released
3. Date 5/12/11	Name (Print) A IAN			Date
	DIVPIR	Angela	Jan-	Time Custody Released
Time Custody Received	Organization DV11(3)	Signature O		Time Custody Released
LABORATORY REMARKS	(Leave Blank)	<del></del>		
A. Condition at Time of Rec	eipt: ~0·0	MR/hr.  Leaked in Transit	.20	Improper Container
☐ Acceptable ☐ Holding Time Exceeds		: Insufficient Sample		
B. Preservatives/Carriers:	n □ Added in Laboratory	◯ Not Added		Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



#### FINAL Analysis Results Report for Task ID. N11-0546

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/01/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook
Site Name: Diablo Canyon NPP

Date/Time Collected: 05/04/2011 09:35 Date/Time Received: 05/05/2011 13:00

Source Name: DCNPP / May 2011

R Number: R91405

Sample Type: Drinkingwater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0546-001	Bio Lab Sink	EPA 901.1	K-40	63.0 ± 16.8	76.3	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors

REQUEST FOR S	SAMPLE ANALYSIS (F		打造工作 医乳腺黄疸 医毒性皮肤
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164		Received 5	Lab No. (Leave Blank) ↑ NII - 0546
Richmond, CA 94804		Time Sampled	Serial Number
510-620-2911	6/4/11	0935	R 91405
Collector Information	Reporting Info		
Name: Tom Hook Dept./Branch: P.O. BIX 56 Address: AULA BEACH, CA 93,424	Name:		
Dept./Branch: P.D. BOX 56	Dept./Branch:		
address: AINLA BEACH, CA 93,424	Address:		
elephone No.: (805) SYS - 4409	Telephone No.	:	
Sample Information	Billing Agenc		
System Name / Facility: B/O 448	DWFOB (	) 🖸 RHB 🖸	RWQCB() DTSC
Sampling Point (s):	□ DWTPB		DWR □ CDFG
System No.: DW1	§ □ EMB	Other (Sp	ecify)
7000			
YPE OF SAMPLE (Check all applicable boxes)	*	•	
C Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment Pla	☐ Surface Wa ant (WTP)☐ Distribution		☐ Wastewater ☐ Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Ch	22		
Air Filters Date/Time	<sup>#</sup> □ Seawater		☐ Sludge (Semi-solid Samples
Finishing:	_ Milk		☐ Soil/Sediment
Starting:	ু □ Wipes		☐ Biota (Type):
Net (M <sup>3</sup> )	🖫 🚨 Radon Can	ister	Other:
Air Charcoal Cartridge			
OMMENTS: (Cautions, etc.):	41		
Field Treatment: Preservatives added:	ै\ced/Frozen: _	-	Other:
Field Measurement:mR/h	r 💢 🔁 Radionuclio	le(s), if known:	·
Rush/Priority (should be prearranged and have superv	isory approval)		
NALYSIS REQUESTED (For questions, please call 510-	-620-291		
교회가 경우하면서 "聲이 가는 사람들이 다른 하는 것이 되었다. 그 사람들이 되었다.	Gross Beta	S√ Gamma	Scan
	Total Beta (LSC)	NORM (	
	Tritium ( <sup>3</sup> H)		Americium / Curium
	Carbon-14	☐ Isotopic I	
	The first of the state of the s		
- 1.00.00.00	odine-131	☐ Isotopic	
	Strontium-89, 90	☐ Isotopic I	Jranium
	Nickel-63	☐ Iron-55	
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	- Song -		
Date Name (Print)			Date
Time Custody Received Organization	Signature		Time Custody Released
5/5/11 A.TAN			
Date Name (Print)	A. A.	O To	Date
Time Custody Received Organization	Signature	ra 1an	Time Custody Released
ABORATORY REMARKS (Leave Blank)  Condition at Time of Receipt: 40-61	No.		
. Condition at Time of Receipt:   Graph     Graph     Graph     Graph     Graph     Graph    Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph     Graph	MR/h(_□ Leakedin	Fransit	☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cook			
Preservatives/Carriers:			
☐ Added While Sampling ☐ Added in Laborate	ory 🔲 Not Added		☐ Not Applicable



#### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



#### FINAL Analysis Results Report for Task ID. N11-0547

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/29/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 05/04/2011 09:35 Date/Time Received: 05/05/2011 13:00

Site Name: Diablo Canyon NPP

Source Name: DCNPP / May 2011

**R Number:** R91497

Sample Type: Drinkingwater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0547-001	Bio Lab Sink	EPA 906.0	Tritium	-33.3 ± 151	260	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors

MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factor abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	A THE BACKSON CONTRACTOR CONTRACT	iochemical)	
Sanitation and Radiation Laboratories Branch	Date Re	ceived	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804	1		N11-0547
510-620-2911	Date & Time	Sampled	Serial Number
	5/4/11	0935	R 91497
Collector Information	Reporting Inform	ation	
Name: Ton Hook Dept./Branch: 22 2 56	Name:	64/	
Name: Dept./Branch: PO. BOX 56 Address: AULA BEACH, CA 93424	Dept./Branch:		
AULIA BEACILICA 93929	A Company of the		하시고 싶는 데 그 때 없다
Telephone No:: (90) 545 - 4409	Prelephone No.:	<b>*</b>	
Sample Information System Name / Facility: BIO LAB	Billing Agency		
Sampling Point (s):	DWFOB()	□ RHB □ F	RWQCB() DTSC DWR DCDFG
D4/1	O EMB		ify)
system No.:			
TYPE OF SAMPLE (Check all applicable boxes)			
✓ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WT)	Surface Water		2 Wastewater
			Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine I	Dioxide / Ozonated / Pe	TUXIZONE / FIUOR	Jaled / Coagulated / pH Adjuste
Air Filters Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:	Milk	Ę	3 Soil/Sediment
Starting:	Wipes		Biota (Type):
Net (M <sup>3</sup> )	Radon Canister		Other: TRITLY SAMPLE
Air Charcoal Cartridge			
OMMENTS: (Cautions, etc.):  2 Field Treatment: Preservatives added:			
	/tced/Frozen:		ier:
Field Measurement:mR/hr	Radionuclide(s		
	Radionuclide(s		
Field Measurement:mR/hr Rush/Priority (should be prearranged and have supervisory a	Radionuclide(s		
Field Measurement:mR/hr Rush/Priority (should be prearranged and have supervisory all	/ PRadionuclide(s ipproval) 911)	), if known:	
Field Measurement:mR/hr Rush/Priority (should be prearranged and have supervisory approximately Requested (For questions, please call 510-620-29) Gross Alpha Gross E	/ Padionuclide(s pproval) 911) Beta	), if known:	an
Field Measurement:mR/hr Rush/Priority (should be prearranged and have supervisory at NALYSIS REQUESTED (For questions, please call 510-620-29 Gross Alpha	Radionuclide(s pproval) 911) Beta eta (ESC)	), if known: ☐ Gamma Sc ☐ NORM (Ga	an mma)
Field Measurement:mR/hr Rush/Priority (should be prearranged and have supervisory all NALYSIS REQUESTED (For questions, please call 510-620-29) Gross Alpha	PRadionuclide(s ipproval) 911) Beta eta (ESC) ( <sup>3</sup> H)	, if known: ☐ Gamma Sc ☐ NORM (Gal ☐ Isotopic Am	an mma) iericium / Curium
Field Measurement:mR/hr   Rush/Priority (should be prearranged and have supervisory approximately supervisory appro	Radionuclide(s ipproval) 911) Beta eta (ESC) (³H)	Gamma Sc NORM (Ga Isotopic Am Isotopic Plu	an mma) nericium / Curium ntonium
Field Measurement:mR/hr   Rush/Priority (should be prearranged and have supervisory approximately supervisory appro	Radionuclide(s ipproval) 911) Beta eta (ESC) (³H)	Gamma Sc NORM (Ga Isotopic Am Isotopic Plu Isotopic The	an mma) iericium / Curium itonium prium
Field Measurement:mR/hr  mR/hr  mR/hr     Rush/Priority (should be prearranged and have supervisory approximately a	Radionuclide(s ipproval) 911) Beta eta (ESC) ( <sup>3</sup> H) i-14 131	Gamma Sc NORM (Gall Isotopic Amll Isotopic The Isotopic Ura	an mma) iericium / Curium itonium prium
Field Measurement:mR/hr Rush/Priority (should be prearranged and have supervisory approximately supervisory approxim	Radionuclide(s ipproval) 911) Beta eta (ESC) ( <sup>3</sup> H) i-14 131	Gamma Sc NORM (Ga Isotopic Am Isotopic Plu Isotopic The	an mma) iericium / Curium itonium prium
Field Measurement:mR/hr   Rush/Priority (should be prearranged and have supervisory approximately supervisory appr	Radionuclide(s ipproval) 911) Beta eta (ESC) ( <sup>3</sup> H) i-14 131	Gamma Sc NORM (Gall Isotopic Amll Isotopic The Isotopic Ura	an mma) iericium / Curium itonium prium
Field Measurement:mR/hr  Rush/Priority (should be prearranged and have supervisory approximately prearranged and have supervisory approximately provided and have supervisory approximately prov	Radionuclide(s ipproval) 911) Beta eta (ESC) ( <sup>3</sup> H) i-14 131	Gamma Sc NORM (Gall Isotopic Amll Isotopic The Isotopic Ura	an mma) iericium / Curium itonium prium
Field Measurement:mR/hr   Rush/Priority (should be prearranged and have supervisory approximately supervisory app	Radionuclide(s ipproval) 911) Beta eta (ESC) (³H) 1-14 131 Jum-89, 90 63	Gamma Sc NORM (Gall Isotopic Amll Isotopic The Isotopic Ura	an mma) nericium / Curium ntonium prium anium
Field Measurement:mR/hr   Rush/Priority (should be prearranged and have supervisory approximately approx	Radionuclide(s ipproval) 911) Beta eta (ESC) ( <sup>3</sup> H) i-14 131	Gamma Sc NORM (Gall Isotopic Amll Isotopic The Isotopic Ura	an mma) nericium / Curium ntonium prium anium  Date  Time Custody Released
Field Measurement:	Radionuclide(s ipproval) 911) Beta eta (ESC) (³H) 1-14 131 Jum-89, 90 63	Gamma Sc NORM (Ga Isotopic Am Isotopic Plu Isotopic Ura Isotopic Ura	an mma) nericium / Curium ntonium prium anium
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Field Measurement:	Radionuclide(s ipproval) 911) Beta eta (ESC) (³H) 1-14 131 Jum-89, 90 63	Gamma Sc NORM (Ga Isotopic Am Isotopic Plu Isotopic Ura Isotopic Ura	an mma) nericium / Curium ntonium prium anium  Time Custody Released  Date  Time Custody Released
Field Measurement:	Radionuclide(supproval) 911) Beta eta (ESC) (³H) 1-14 131 Jum-89, 90 63	Gamma Sc NORM (Ga Isotopic Am Isotopic Plu Isotopic Ura Isotopic Ura	an mma) nericium / Curium ntonium prium anium  Tige Custody Released Date
Field Measurement:	Radionuclide(s ipproval) 911) Beta eta (ESC) (³H) 1-14 131 Jum-89, 90 63	Gamma Sc NORM (Ga Isotopic Am Isotopic Plu Isotopic Ura Isotopic Ura	an mma) lericium / Curium litonium prium anium  Date  Time Custody Released Date  Time Custody Released Date
Field Measurement:	Radionuclide(supproval) 911) Beta eta (ESC) (³H) 1-14 131 Jum-89, 90 63	Gamma Sc NORM (Ga Isotopic Am Isotopic Plu Isotopic Ura Isotopic Ura	an mma) nericium / Curium ntonium prium anium  Time Custody Released  Date  Time Custody Released
Field Measurement:	Radionuclide(supproval) 911) Beta eta (ESC) (³H) 1-14 131 Jum-89, 90 63	Gamma Sc NORM (Ga Isotopic Am Isotopic Plu Isotopic Ura Isotopic Ura	an mma) lericium / Curium litonium prium anium  Date  Time Custody Released Date  Time Custody Released Date
Field Measurement:	Radionuclide(supproval) 911) Beta eta (ESC) (³H) 1-14 131 Jum-89, 90 63	Gamma Sc NORM (Ga Isotopic Am Isotopic Plu Isotopic Ura Isotopic Ura Iron-55	an mma) lericium / Curium litonium prium anium  Date  Time Custody Released Date  Time Custody Released Date



#### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. N11-0548

Analyst: Angela Tan Analysis Approved By: Shiyamalie Ruberu Analysis Approval Date: 06/01/2011

Requestor

Name: Steve Hsu Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento State: CA Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook Date/Time Collected: 05/04/2011 09:20 Date/Time Received: 05/05/2011 13:00

Site Name: Diablo Canyon NPP Source Name: DCNPP / May 2011

R Number: R91042 Sample Type: Surface Water

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0548-001
 Diablo Creek
 EPA 901.1
 K-40
 74.6 ± 18.0
 81.4
 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

State of California – Health and Welfare Agency				California Department of Public He
	REQUEST FOR SAMPLE	ANALYSIS (Radioche	emical)	
Sanitation and Radiation Labo 850 Marina Bay Parkway, G164 Richmond, CA 94804		Date Received	Lab No. (Leave Blank) N11-0548	
510-620-2911			20	Serial Number R 91042
Collector Information Name: Dept./Branch: Address:  Collector Information For Here Por Box AULA BE	OK 510 ACH, CA 93424	Reporting Information Name: Dept./Branch: Address:		
Telephone No.: (205) 57/5	-4109	Telephone No.:	<u> </u>	
Sample Information System Name / Facility: Sampling Point (s): System No.:	ABIO CALEK 552	D DWTPB 🔾 I	RHB RFDB DOTHER (Speci	
TYPE OF SAMPLE (Check all a	pplicable boxes)			
☐ Drinking Water☐ Raw☐ Treated (circle one): Chlorin	Groundwater Water Treatment Plant (WTP) ated / Chloraminated / Chlorine Did			Point of Use (POU)
☐ Air lilters Finishing: Starting:	Date/Time	Seawater Milk Wipes		Sludge (Semi-solid Samples Soil/Sediment Biota (Type):
Net (M³)  □r Air Charcoal Cartridge		Radon Canister		Other:
COMMENTS: (Cautions, etc.):				

iced/Frozen:

mR/hr

☐ Gross Beta

☐ Tritium (¾)

☐ Carbon-14 å

☐ Total Beta (LSC)

Radionuclide(s), if known:

Insufficient Sample

Not Added

Other:

☐ Isotopic Americium / Curium

Improper Container

Not Applicable

Gamma Scan

☐ NORM (Gamma)

	Radium <sub>t</sub> 226	and the second s	Carbon-14	4 }		Isotopic Plutoniur	n
	Radium-228		lodine-13	1 .		Isotopic Thorium	
	Radon-222		Strontium	-89, 90		Isotopic Uranium	
0	Other (Specify);		Nickel-63			Iron-55	
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1.	5/4/11	Town Hook					5/4/11
	Date 0920	Name (Print)		14.0	1	/	Date 1 1700
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2.	Date   111	Name (Print)	<del></del> -	· /			
	Date	Name (Print)					Date
	Time Custony Received	Organization A AA	· · · · · · · · · · · · · · · · · · ·	Signature			Time Custody Released
3.	<u> </u>	ATAN					·
	Date 73:60 -	Name (Print) DWRIB		Angelon T	luga		Date
1	Time Custody Received	Organization	<del></del> /`.	Signature Signature	( G	<u> </u>	Time Custody Released
LA	BORATORY REMARKS	(Leave Blank)					

Broken Container POL MY/Leaked in Transit

Sample Not Cooled

Added in Laboratory

Condition at Time of Receipt:

Preservatives/Carriers: □ Added While Sampling

Acceptable Holding Time Exceeded

Field Treatment: Preservatives added:

☐ Rush/Priority (should be prearranged and have supervisory apprograf) ANALYSIS REQUESTED (For questions, please call 510-620-2911)

☐ Field Measurement:

☐ Gross Alpha

☐ Total Uranium

☐ Total Radium

☐ Radium<sub>t</sub>226



#### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



#### FINAL Analysis Results Report for Task ID. N11-0549

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/29/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 05/04/2011 09:20 Date/Time Received: 05/05/2011 13:00

Site Name: Diablo Canyon NPP

Source Name: DCNPP / May 2011

R Number: R90753

Sample Type: Surface Water

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0549-001	Diablo Creek	EPA 906.0	Tritium	-52.9 ± 150	260	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	MPLE ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804	Date Received Lab No. (Leave Blank)  Stisting NII - 054-9
510-620-2911	5 4 11 0920 R 90753
Collector Information Name: Tou, Hook Dept./Branch: P.O. Box 57 Address: Aviva Bracil, CA 93424 Telephone No.: (205) 545 4409	Reporting Information Name: Dept./Branch: diress:
Sample Information System Name / Facility: Sampling Point (s):  System No.:	Billing Agency DWFOB() RHB RWQCB() DTSC DWTPB DFDB DWR DCDFG DEMB Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (	(WTP) Surface Water Wastewater  (WTP) Distribution System Point of Use (POU)  ine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters ☐ Date/Time Finishing: Starting: Net (M³) ☐ Air Charcoal Cartridge	Seawater Sludge (Semi-solid Samples)  Milk Soil/Sediment  Wipes Biota (Type):  Radon Canister Other: TUTUM SAMPLE
COMMENTS: (Cautions, etc.):  Field Treatment: Preservatives added:  Rush/Priority (should be prearranged and have supervisor	Cry approval)
☐ Total Uranium ☐ Total Uranium ☐ Total Radium ☐ Total Radium ☐ Cadi ☐ Cadi ☐ Radium-228 ☐ Iodii	Gamma Scan  lal Beta (LSC)  NORM (Gamma)  lium (³H)  Isotopic Americium / Curium  Isotopic Plutonium  Ine-131  Isotopic Thorium  Ontium-89, 90  Isotopic Uranium
CHAIN OF CUSTODY  1. Date 920 Name (Print)  Tour Hook Name (Print)  Name (Print)	Signature  Signature  Time Custody Released  Date
3. Time Custody Received Organization DWRIB  Name (Print)  Time Custody Received Organization  Organization  Organization  Organization	Time Custody Released  Date  Signature  Time Custody Released  Time Custody Released
Holding Time Exceeded     Sample Not Cooled	C/OI Nig/(h Leaked in Transit Improper Container Insufficient Sample
B. Preservatives/Carriers:	Not Applicable



#### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0472

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/01/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Date/Time Collected: 04/46/2011 07:45 Date/Time Received: 04/20/2011 11:00

Site Name: Diablo Canyon NPP

Source Name: DCNPP / April 2011

R Number: R91402

Sample Type: Seawater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0472-001	Outfall Water	EPA 901.1	K-40	348 ± 17.3	57.5	pCi/L

Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and

REQUEST FOR SA	MPLE ANALYSIS (Ra	idiochemical)	
Sanitation and Radiation Laboratories Branch	Date F	Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804	1 1 41	20/11	N11-0472
510-620-2911		ne Sampled	Serial Number
	4 19/11	0745	R 91402
Collector Information	Reporting Infor	mation	
Name: Ton Hook Dept./Branch: P.O. Box 56 Address: AVILA BEAGH, CA 93424	Name: Dept./Branch:		
Address: Address: Address:	Address:		
AULA BEACA, CA 17729			
Telephone No.: /305) 545-4409  Sample Information	Telephone No.:		
System Name / Facility: DCPP OUTFALL	D DWFOB ( )	□ RHB □ R	WQCB() DTSC
Sampling Point (s):	DWTPB	G FDB G D	
System No.:	□ ЕМВ		fy)
TYPE OF SAMPLE (Check all applicable boxes)		_	<i>f</i> 1 − 1 − 1 − 1 − 1 − 1 − 1 − 1 − 1 − 1
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant	Surface Wate     Surface Wate     Surface Wate     Surface Wate		Wastewater Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorinated			
☐ Air Filters Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:	Milk		Soil/Sediment \
Starting:	ି ☐ Wipes		Biota (Type):
Net (M³)	Radon Canist	er 🗆	Other:
☐ Air Charcoal Cartridge			
COMMENTS: (Cautions, etc.):			and the second s
Field Treatment: Preservatives added:	leed/Frozen:		er:
☐ Field Measurement:mR/hr	<del></del>		
Rush/Priority (should be prearranged and have superviso			
ANALYSIS REQUESTED (For questions, please*call 510-62)	0.2014		
		[N] #O	
	ss Beta al Beta (LSC)	Gamma Sca	
	um ( <sup>3</sup> H)	☐ WORM (Gan	nma) ericium / Curium
	bon-14	☐ Isotopic Plut	
	ne-131	☐ Isotopic Tho	
	ontium-89, 90	☐ Isotopic Ura	
	kel-63	☐ Iron-55	
CHAIN OF CUSTODY			
1. 1911 Ton HOOK			4/19/11
Date Name (Print)		61	Date
Time Custody Received Organization	Signature	01	Time Custody Released
<b>2.</b>			
Date Name (Print)		and the	Date
Time Custody Received Organization	Signature		Time Custody Released
3. Data 4120/11 Name (Data) At TAN			
Date T See Name (Print)	<b>A</b>	<b>-</b>	Date
Time Custody Received Organization	Signature 2 C	A land	Time Custody Released
LABORATORY REMARKS (Leave Blank)			
A. Condition at Time of Receipt:	-0.01 MR/hc		
☐ Acceptable ☐ Broken Container ☐ Holding Time Exceeded ☐ Sample Not Cooled	Leaked in Tra		□ Improper Container
	™O Insufficient Sa	imple .	
B. Preservatives/Carriers: ☐ Added While Sampling ☐ Added in Laboratory	⊕ Not Added		D. No Applicable
		ang sa 1925 ng Pangalang Bada di	Not Applicable
ab 803 (11/07)			



#### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



#### FINAL Analysis Results Report for Task ID. N11-0474

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 07/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 04/19/2011 07:45 Date/Time Received: 04/20/2011 11:00

Site Name: Diablo Canyon NPP

Source Name: DCNPP / April 2011

**R Number:** R91115

Sample Type: Seawater

Sample ID **Sampling Point** Method **Parameter** Result ± CE MDA95 Units N11-0474-001 **Outfall Water** EPA 906.0 Tritium -33.2 ± 170 293 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

Lab 803 (11/07)

	JEST FOR SAMPLE			
Sanitation and Radiation Laboratories Bra	nch	Date Rece	ived	Lab No. (Leave Blank)
50 Marina Bay Parkway, G164 Richmond, CA 94804		4120111		N11-0474
10-620-2911		Date & Time	Sampled	Serial Number
		4/19/11	0745	R 91115
ollector Information	f <sup>s</sup>	Reporting Information	tion	
ame: Tour Hook		Name: Dept./Branch:		
ddress:	BU24 3	Address:		
ept./Branch: P.O. BOX 56 ddress: AUCA BEAGI, CA			<b>1</b>	
elephone Net / 25 - 940 9		Felephone No.:	· 14	
ample Information ystem Name / Facility:	111	Billing Agency		
ystem Name / Facility: DOP DUTF ampling Point (s):	WILL.		□ RHB □ RW □ FDB □ DW	/QCB() © DTSC /R — CDFG
DUT			Other (Specify)	
ystem No.:			— Caror (Openity)	
PE OF SAMPLE (Check all applicable box	es)			
Drinking Water Groundw Raw Groundw	rater	Surface Water	<u>D</u>	Wastewater
Treated (circle one): Chlorinated (Chlorin	reatment Plant (WTP)	Unstribution Systems	em U	Point of Use (POU)
Treated (circle one): Chlorinated / Chlorar		ipe / Ozonated / Perc	oxizone / Fluondat	ed / Coagulated / pH Adjusted
	ate/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:	<del></del>	Milk		Soil/Sediment
Starting:		Wipes		Biota (Type):
Net (M <sup>3</sup> )		Radon Canister	<b>73</b>	Other: TRITIUM SAMPLE
Air Charcoal Cartridge				
MMENTS: (Cautions, etc.):				
Field Treatment: Preservatives added:	/ / A	ced/Frozen:		and the second of the second o
Field Measurement:		Radionuclide(s),	if known	•
Rush/Priority (should be prearranged and h	IIIVIII	a Nadionuclide(s),	ii known:	
IALYSIS REQUESTED (For questions, plea				
Gross Alpha				
Total Uranium	Gross Beta	2	☐ Gamma Scan	
Total Radium	☐ Total Beta		NORM (Gamn	
Radium-226	Tritium (³H)	*	☐ Isotopic Ameri	
Radium-228	☐ Carbon-14 ☐ lodine-131	X	☐ Isotopic Plutor	
Radon-222	☐ Strontium-8	Service -	Isotopic Thoriu	
Other (Specify);	☐ Nickel-63		Isotopic Uranii	um:
AIN OF CUSTODY	U NICKEFO3		☐ Iron-55	
4/19/11 Tour Hook	_			4/19/11
Date Name (Print)	No transmit Arbert et Arbertal			Date
Time Custon Received Organization		E for y/a	4	-0345 100
		77	***	Time Custony Released
Date Name (Print)				Date
Time Custody Received Organization		Signature		T
A kou A	TA-N			Time Custody Released
Date Name (Print)	IDIAN I			Date
Time Custody Received Organization	(RIB) WRIR	Signature Signature	- An-	Time Cueled a Dalassa
	VV INTS	75000	JAV.	Time Custody Released
BORATORY REMARKS (Leave Blank) Condition at Time of Receipt:				
☐ Acceptable ☐ ☐ ☐ ☐ Broke	en Container 🐣 🤄 🕅	Muleaked in Transit		☐ Improper Container
Holding Time Exceeded Sam	ole flor Cooled >	Insufficient Sample		Aligh.
Preservatives/Carriers:				7117/11 c
☐ Added While Sampling ☐ Adde	d in Laboratory	☐ Not Added		☐ Not Applicable ,



#### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



#### FINAL Analysis Results Report for Task ID. N11-0449

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/01/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Collector's Name: Rick Treinen Site Name: Diablo Canyon NPP Date/Time Collected: 04/18/2011 09:10 Date/Time Received: 04/19/2011 09:20

Source Name: DCNPP / April 2011

R Number: R91108 Sample Type: Drinkingwater

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0449-001
 Bio Lab Sink
 EPA 901.1
 K-40
 23.7 ± 17.4
 80.5
 pCi/L

Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

		E ANALYSIS (Radiochemica	
Sanitation and Radiation Laboratory G164	oratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804		A/19/11	N11-0449
510-620-2911		Date & Time Sampled	Serial Number
0.0.4.1.5		4/18/11 0910	R 91108
Collector Information Name: Rick Treinen		Reporting Information Name:	
Dept./Branch: PAR-V E/		Dept./Branch:	
Dept./Branch: Po Box 56 Address: Avila Beach,	A 43424	Address:	
Telephone No.: 805-545	-C481	Telephone No.:	
Sample Information		Billing Agency	
System Name / Facility: 13	10 LAB	DWFOB() RHB	
Sampling Point (s):		D DWTPB D FDB	
System No.:	DW1	☐ EMB ☐ Other	(Specify)
TYPE OF SAMPLE (Check all a	pplicable boxes)	<b>*</b>	
Drinking Water Raw	Groundwater	Surface Water	
	Water Treatment Plant (WTP		
- Treated (Citcle one): Chlonn	aled / Chioraminated / Chionne Di	oxide / Ozonated / Peroxizone /	Fluoridated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater	☐ Sludge (Semi-solid Samples)
Finishing:		Milk	☐ Soil/Sediment
Starting:		₩ipes	☐ Biota (Type):
Net (M <sup>3</sup> )		Radon Canister	Other:
Air Charcoal Cartridge			
COMMENTS: (Cautions, etc.):			
☐ Field Treatment: Preserval	tives added:	kced/Frozen:	Other
☐ Field Measurement:	mR/hr	Radionuclide(s), if known:	
	rranged and have supervisory app		
8	uestions, please call 510-620-291		
Gross Alpha	Gross Be		ma Scan
Total Uranium	☐ Total Bet	*	ma scan M (Gamma)
☐ Total Radium	☐ Tritium (³	361	pic Americium / Curium
3 Radium-226	☐ Carbon-1	2	pic Plutonium
Radium-228	☐ lodine-13	*	pic Thorium
Radon-222	☐ Strontium		pic Uranium
Other (Specify);	Nickel-63		
CHAIN OF CUSTODY	0.1-	1 7	
- 4/18/11 / Nam	LICK Treinen	//0///	4/18/11
	PGFE	1/0//	Date 1700
Time Custody Received Orga	anization	Signature	Time Custody Released
Date Nam	ne (Print)		Date
			Date
Time Custody Received Orga	A. TAN	Signature	Time Custody Released
Date Nam	ne (Print)		Date
Time Custody Received Orga	DWRLB Inization	mach Tan	<u> </u>
		Signature /	Time Custody Released
ABORATORY REMARKS (Leave Condition at Time of Receipt:	ve Blank) Zo. 0 ( MR)		
☐ Acceptable -	☐ Broken Container	Leaked in Transit	☐ Improper Container
☐ Holding Time Exceeded	Sample Not Cooled	☐ Insufficient Sample	- Improper Container
. Preservatives/Carriers:			
Added While Sampling	☐ Added in Laboratory	. □ Not Added	□ Not Applicable



#### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



#### FINAL Analysis Results Report for Task ID. N11-0450

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/29/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Rick Treinen

**8**Date/Time Collected: 04/<del>06/</del>2011 09:00 Date/Time Received: 04/19/2011 09:20

Site Name: Diablo Canyon NPP

R Number: R91121

Source Name: DCNPP / April 2011

Sample Type: Drinkingwater

Sample ID

**Sampling Point** 

<u>Method</u>

**Parameter** 

Result ± CE

MDA95

<u>Units</u>

N11-0450-001

Bio Lab Sink

EPA 906.0

Tritium

-25.5 ± 151

260

pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

Lab 803 (11/07)

	IPLE ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804	Date Received         Lab No. (Leave Blank)           4/19/II         N11-0450
510-620-2911	Date & Time Sampled Serial Number R 91121
Collector Information	Reporting Information
Name: Rick Trainen Dept./Branch: Po Box 56 Address: Avila Beach, CA 93424	Name: Dept./Branch: Address:
Telephone No.: 80 45 -648   Sample Information	Billing Agericy
System Name / Facility: Sampling Point (s):  B16 LAB	DWFOB() RHB RWQCB() DTSC DWTPB DFDB DWR CDFG EMB DOther (Specify)
System No.: DW1	G Citiel (Specily)
TYPE OF SAMPLE (Check all applicable boxes)  Drinking Water  Groundwater  Water Treatment Plant (W  Treated (circle one): Chlorinated / Chloraminated / Chlorinated	Surface Water
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Sample
Finishing:	☐ Milk ☐ Soil/Sediment
Starting:	
Net (M³)	
Air Charcoal Cartridge	Radon Canister
COMMENTS: (Cautions, etc.):	
Field Treatment: Preservatives added:	Coed/Frozen: Other:
Field Measurement:mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory	
NALYSIS REQUESTED (For operations, please call 510-620-2	2911)
☐ Gross Alpha	Beta Gamma Scan
☐ Total Uranium ☐ Total	Beta ( SC)
Total Radium Tritiun	m (³H) ☐ Isotopic Americium / Curium
☐ Carbo	
Radium-228 ☐ Iodine	-131
Radon-222	tium-89, 90 🔲 Isotopic Uranium
Other (Specify); Nickel	l-63 □ Iron- <u>5</u> 5
CHAIN OF CUSTODY  4/18/11  Date Name (Print)  OCHE	4/18/11 Date
Time Custody Received Organization  Date Name (Print)	Fignature (1.1) The Custody Released
	Date
Date 4 17 11 Name (Print)	Signature Time Custody Released Date
Time Custody Received Organization DWRLB	Signature Tax Time Gustody Released
ABORATORY REMARKS (Leave Blank)  Condition at Time of Receipt:  Acceptable  Holding Time Exceeded  Acceptable  Sample Not Cooled	MR/II/  Leaked in Transit
Preservatives/Carriers:   Added While Sampling  Added in Laboratory	□ Not Added □ Not Applicable



#### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



#### FINAL Analysis Results Report for Task ID. N11-0451

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 06/01/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Rick Treinen Site Name: Diablo Canyon NPP Date/Time Collected: 04/18/2011 09:00 Date/Time Received: 04/19/2011 09:00

Source Name: DCNPP / April 2011

R Number: R91040 Sample Type: Surface Water

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0451-001
 Diablo Creek
 EPA 901.1
 K-40
 0.149 ± 11.9
 56.2
 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

		LE ANALYSIS (Radiochemica	
Sanitation and Radiation Labo 850 Marina Bay Parkway, G164		Date Received	Lab No. (Leave Blank)
Richmond, CA 94804		4/18/14	NII-0451
10-620-2911		Date & Time Sampled	Serial Number
		14/18/11 0900	l R 91040
ollector Information		Reporting Information	
ept./Branch: P.O. Box S		Name: Dept./Branch:	
ddress:	> 6	Address:	
ddress: AVILA BEACH,	CA. 73424		
elephone No.: 805 - 545 -		Telephone No.:	
ample Information ystem Name / Facility:	Diania Check	Billing Agency	
ampling Point (s):		DWFOB() RHB DWTPB DFDB	. ,
	552		D DWR CDFG (Specify)
ystem No.:			(Specify)
PE OF SAMPLE (Check all a	oplicable boxes)		
Drinking Water Raw	Groundwater	Surface Water	■ Wastewater
		P) Distribution System	
Treated (GIGE One): Chionna	ited / Chloraminated / Chlorine D	Ploxide / Uzonated / Peroxizone / F	Fluoridated / Coagulated / pH Adjuste
Air Filters	Date/Time	☐ Seawater	☐ Sludge (Semi-solid Samples
Finishing:	<u> </u>	☐ Milk	□ Soil/Sediment
Starting:		☐ Wipes	☐ Biota (Type):
Net (M³)		Radon Canister	
Air Charcoal Cartridge		Tradon Camater	Other:
OMMENTS: (Cautions, etc.):			
Field Treatment: Preservati	ves added:	ced/Frozen:	Other:
Field Measurement:	mR/hr	Radionuclide(s), if known:	
Rush/Priority (should be prear	rranged and have supervisory ap	proval)	
IALYSIS REQUESTED (For qu	uestions, please call 510-620-29	11) 🖟	
Gross Alpha	<b>□</b> Gross B	eta. <b>∑</b> Gamm	na Scan
Total Uranium	Total Be	7	I (Gamma)
Total Radium	☐ Tritium (	3 *	ic Americium / Curium
Radium-226	☐ Carbon-		ic Plutonium
Radium-228	☐ lodine-1		ic Thorium
Radon-222	☐ Strontiur		ic Uranium
Other (Specify);	Nickel-6:		
AIN OF CUSTODY			
4/18/11	CLANDO SARI		11/18/11
Date Mam	e (Print)	((200)	Date
	nization A	Signature	1700
24.20	73 / A	ognature	Time Custody Released
Date Name	e (Print) PWKLB	Annal	Date
Time Custody Received Orga	nization ,	Signature	<del></del>
4/19/11	A TAN	wignature	Time Custody Released
	e (Print)	A	Date
Time Custody Received Organ	nization DWRLB	Signature geta la	
	SOA MR	Signature	Time Custody Released
BORATORY REMARKS (Leav Condition at Time of Receipt:	e Blank) ∠ o∵ol:M	8/16	
Acceptable	☐ Broken Container	「Yh ( □ Leaked in Transit	S B W
☐ Holding Time Exceeded	☐ Sample Not Cooled	☐ Insufficient Sample	Improper Container
Preservatives/Carriers:			x ≠ (*
Added While Sampling	Added in Laboratory	☐ Not Added	□ Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0452

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 07/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Orlando Sabi

Date/Time Collected: 04/18/2011 09:00 Date/Time Received: 04/19/2011 09:20

Site Name: Diablo Canyon NPP

Source Name: DCNPP / April 2011

R Number: R91114

Sample Type: Surface Water

Sample ID Sampling Point **Method** 

**Parameter** Result ± CE MDA95 Units N11-0452-001 Diablo Creek EPA 906.0 Tritium -108 ± 168 293 pCi/L

Precision criteria for these methods were determined to be acceptable.

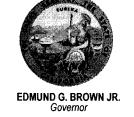
CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors

	EQUEST FOR SAMPLE?	ANALYSIS (Radiochemic	al)
Sanitation and Radiation Laboratories 850 Marina Bay Parkway, G164		Date Received	Lab No. (Leave Blank) N11-0452
Richmond, CA 94804		J Date & Time Sampled	
510-620-2911			Serial Number
C-lloster Information		4 18 11 0900	R 91114
Collector Information Name: Optawoo SABI		Reporting Information Name:	
Dept./Branch: P.O. Box 56		Dept./Branch:	
Address: AVILA BEACH, CA. 9	73424	Address:	
		<b>3</b>	
Teleptione No.:		elephone No.:	
System Name / Facility: DIABLO	/ I	Billing Agency DWFOB() DRHB	C DWOOD ( ) D DTGO
Sampling Point (s):	in the second se	DWFOB() RHB DWTPB FDB	
Suestern No. 55	2		r (Specify)
System No			
TYPE OF SAMPLE (Check all applicable	.33		
Drinking Water Grou	undwater	Surface Water	☐ Wastewater
	er Treatment Plant (WTP)		
I Treated (circle one): Unionnated / Uni	oraminated / Chlorine Dioxi	e / Ozonated / Peroxizone /	/ Fluoridated / Coagulated / pH Adjusted
Air Filters	Date/Time	3 Seawater	☐ Sludge (Semi-solid Samples)
Finishing:			☐ Soil/Sediment
Starting:		22	
Net (M <sup>3</sup> )			☐ Biota (Type):
		Radon Canister	Other:
Air Charcoal Cartridge			
OMMENTS: (Cautions, etc.):			
Field Treatment: Preservatives adde	ed:	en/Frozen:	Other:
			Cuter.
Rush/Priority (should be prearranged a			
NALYSIS REQUESTED (For questions,	please call 510-620-2911)		
Gross Alpha	☐ Gross Beta	, —	nma Scan
Total Uranium	📈 🚨 Total Beta (		RM (Gamma)
Total Radium	✓		opic Americium / Curium
Radium-226	Carbon-14		opic Plutonium
Radium-228	☐ lodine-131		opic Thorium
Radon-222	☐ Strontium-89		opic Uranium
Other (Specify);	Nickel-63	Iron-	
IAIN OF CUSTODY			30
4/18/11 DRIAM	DO SARI	$\sim$	4/18/11
Date Name (Print)		MAN	Date
0900 PC4	E	Kask.	1700
Time Custody/Received: Organization		ionatuje	me Custody Released
Date Name (Print)			Date
Time Custody Received Organization	1 -11	Signature 🔍 👢	Time Custody Released
Date 1914 Name (Print)	HAN	Programme and the second	
	DIJ RIB	Anala Tan	Date
Time Custody Received Organization	DWK18	Signature A	Time Custody Released
BORATORY REMARKS (Leave Blank) Condition at Time of Receipt:	< o-a meime	o./	
Acceptable	Broken Container 17 hig	D Leaked in Transit	☐ Improper Container
O Holding Time Exceeded O	Sample Not Cooled C	Insufficient Sample	
APP MATERIAL PROPERTY PARTY CALLS A TOTAL CONTRACTOR AND		SAPALATAKAN PENDANGKANAN	
. Preservatives/Carriers:	Tentorical programmer and the pr	are Z. Salar Malara and Company and Company and Company	



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0313

Analyst: Angela Tan Analysis Approved By: Shiyamalie Ruberu Analysis Approval Date: 06/01/2011

Requestor

Name: Steve Hsu Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

**City:** Sacramento **State:** CA **Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Orlando Sabi Date/Time Collected: 03/23/2011 10:35 Date/Time Received: 03/24/2011 11:40

Site Name: Diablo Canyon NPP Source Name: DCNPP / March 2011

R Number: R91493 Sample Type: Seawater

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0313-001
 Outfall Water
 EPA 901.1
 K-40
 388 ± 22.2
 83.6
 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LL D95 divided by 2.33, the officiency and the violation of the sample specific minimum detectable activity at the 95% confidence level.

☐ Not Applicable

Sanitation and Radiation	Laboratories Branch	Date Re	ceived	Lab No. (Leave Blank)
850 Marina Bay Parkway,	G164	3/2411		NII-0313
Richmond, CA 94804		Date & Time		Serial Number
510-620-2911		3/27/1	1035	R 91493
Collector information		Reporting Inform		N JITJU
Name: PRIANDOSA	<b>B</b> /	Name:		
Dept./Branch: P.の. 刄o	x56	* Dept./Branch:		
Address AULA BEACH	,C1.93424	Address:		
Telephone No.: (805)	345-4415	Telephone No.:		
Sample Information		Billing Agency		
System Name / Facility:	DCPP OUTFALL	DWFOB()		QCB() DTSC
Sampling Point (s):		D DWTPB	D FDB D DWF	
System No.:	OUT	. □ EMB	☐ Other (Specify)	
TYPE OF SAMPLE (Check	all applicable boxes)			
Drinking Water	☐ Groundwater	Surface Water	u v	Vastewater
Raw	Water Treatment Plant (WTP)	-	stem 🔲 P	oint of Use (POU)
Treated (circle one): Ch	nlorinated / Chloraminated / Chlorine Did	oxide / Ozonated / Pe	eroxizone / Fluoridate	d / Coagulated./-pH Adjuste
Air Filters	Date/Time	Seawater	u s	ludge (Semi-solid Samples)
Finishing:		Milk		oil/Sediment
Starting:		☐ Wipes		iota (Type):
Net (M³)		Radon Caniste		other:
Air Charcoal Cartridge	•			ulor.
COMMENTS: (Cautions, e				
Field Treatment: Pres		lced/Frozen:	Other:	
Field Measurement:	mR/hr	Radionuclide(s	), if known:	
Rush/Priority (should be	prearranged and have supervisory app	roval)		
NALYSIS REQUESTED (	For questions, please call 510-620-291	)		
Gross Alpha	☐ Gross Ber	a	Gamma Scan	
Total Uranium	☐ Total Beta	<b>1</b>	NORM (Gamma	a)
Total Radium	☐ Tritium (³i	a ¥C f	☐ Isotopic Americ	ium) Curium
Radium-226	☐ Carbon-1		☐ Isotopic Plutoni	
Radium-228	☐ lodine-13	1.4	☐ Isotopic Thorius	
Radon-222	☐ Strontium	-89, 90	☐ Isotopic Uraniu	
Other (Specify);	Nickel-63	بمالي	☐ Iron-55	
HAIN OF CUSTODY				<del>- , , , ,</del>
3/23/11	CRLANDO SABI		& Fall	3/23/11
Daté /	Name (Print)	(D.b.10)	$A^{A^{(n)}}$	Dete
Time Custody Received	Organization	Signature		Time Custody Released
Date	Name (Driet)			
Date	Name (Print)	tog i State of the state of th		Date
Time Custody Received	Organization A	Signature		Time Custody Released
Date 3/24/41	Name (Print)	建气油 医红斑		
413.06	DINDID	Angal	Tan-	Date
Time Custody Received	Organization	Signature Signature	<b>W</b>	Time Custody Released
ABORATORY REMARKS	(Leave Blank)			
<ul> <li>Condition at Time of Rec</li> </ul>	elpt: 0.0% M	Ric		
☐ Acceptable ☐ Holding Time Exceed	Broken Container  Sample Not Cooled	/□" Leaked in Trans □ Insufficient San		I Improper Container
. Preservatives/Carriers:	g D Added in Laboratory	□ Not Added		l Not Applicable

☐ Added in Laboratory ☐ Not Added



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0314

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 07/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Orlando Sabi

Site Name: Diablo Canyon NPP

R Number: R91034

Date/Time Collected: 03/23/2011 10:35 Date/Time Received: 03/24/2011 11:40

Source Name: DCNPP / March 2011

Sample Type: Seawater

Sample ID **Sampling Point** Method **Parameter** Result ± CE MDA95 **Units** N11-0314-001 **Outfall Water** EPA 906.0 **Tritium** -120 ± 168 293 pCi/L

Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

California Department of Public Health State of California - Health and Welfare Agency REQUEST FOR SAMPLE ANALYSIS (Radiochemical) Date Received Lab No. (Leave Blank) Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 M1 - 0314Richmond, CA 94804 Serial Number Date & Time Sampled 510-620-2911 Reporting Information **Collector Information** Name: Name: () RLANDO SABI Dept./Branch: Dept./Branch: p.O. BOX 56 Address: Address: ANKA BEACH, CA. Telephone No.: (205) 545-44/5 Telephone No.: **Billing Agency** Sample Information System Name / Facility: DWFOB() ☐ RHB ☐ RWQCB() DTSC Sampling Point (s); ☐ DWR ☐ DWTPB ☐ FDB □ EMB ☐ Other (Specify) System No.: TYPE OF SAMPLE (Check all applicable boxes) ☐ Groundwater Surface Water Wastewater Drinking Water ■ Water Treatment Plant (WTP), Distribution System Point of Use (POU) ☐ Raw Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Seawater Date/Time □ Sludge (Semi-solid Samples) Air Filters Finishing: Milk □ Soil/Sediment Wipes □ Biota (Type): Starting: DO Other: TRITIUM SAMPLE Net (M<sup>3</sup>) Radon Canister ☐ Air Charcoal Cartridge COMMENTS: (Cautions, etc.): ed/Frozen: ☐ Field Treatment: Preservatives added: Other: Radionuclide(s), if known: ☐ Field Measurement: mR/hr Rush/Priority (should be prearranged and have supervisory appreval) ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Gross Beta Gamma Scan □ Total Uranium ☐ Total Beta (LSC) ■ NORM (Gamma) Total Radium ☐ Tritium (³H) ☐ Isotopic Americium / Curium ☐ Radium-226 ☐ Carbon-14-☐ Isotopic Plutonium ☐ Radium-228 lodine-131 ■ Isotopic Thorium ☐ Radon-222 ☐ Strontium-89. 90 Isotopic Uraniûm Other (Specify); ☐ Nickel-63 ☐ Iron-55 **CHAIN OF CUSTODY** Time Custody Received Date Name (Print) Date **Time Custody Received** Organization Signature Time Custody Released Date Organization Time Custody Received Time Custody Released LABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: D.O. MR Acceptable Leaked in Transit **Broken Container** Improper Container Holding Time Exceeded o Sample Not Cooled Insufficient Sample

Added in Laboratory

Not Added

Not Applicable

Preservatives/Carriers:

Added While Sampling



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. N11-0274

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 05/26/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 03/15/2011 07:46 Date/Time Received: 03/16/2011 11:30

Site Name: Diablo Canyon NPP

Source Name: DCNPP / March 2011

R Number: R91041

Sample Type: Drinkingwater

Sample ID	Sampling Point	Method	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0274-001	Bio Lab Sink	EPA 901.1	K-40	4.37 ± 17.0	79.5	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and

REQUEST FOR SAM	PLE ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804	/ 3 16 11	N11-0274
	Date & Time Sampled	Serial Number
	3/15/11-0746	R 91041
Collector Information	Reporting Information	
Name: Ton Hook Dept./Branch: P.O. Box 576 Address: AULA BLACH CA 93424	Name:	
Dept./Branch: P.O. Box 570 Address: 2011/10 2016/16 CA 934714	Dept./Branch: Address:	
AULA BLACIL CA 75424	Audiess:	
Telephone No.: (805)545-4409	Telephone No.:	
	Billing Agency	
System Name / Facility: RIO LAB	□ DWFOB() □ RHB □	RWQCB() DTSC
Sampling Point (s):	D DWTPB D FDB	
System No.)	☐ EMB ☐ Other (Spe	cify)
TYPE OF SAMPLE (Check all applicable boxes)		
☑ Drinking Water ☐ Groundwater	☐ Surface Water	☐ Wastewater
Raw Water Treatment Plant (W	TP) Distribution System	Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine		
☐ Air Filters Date/Time	☐ Seawater	D Shides (Somi solid Somples)
$\mathcal{L}_{i}$ and $\mathcal{L}_{i}$ and $\mathcal{L}_{i}$ are the second constant $\mathcal{L}_{i}$ and $\mathcal{L}_{i}$ are the second constant $\mathcal{L}_{i}$	<u> </u>	☐ Sludge (Semi-solid Samples)
Finishing:	<b>*</b>	☐ Soil/Sediment
Starting:		Biota (Type):
Net (M³)	Radon Canister	Other:
☐ Air Charcoal Cartridge	2	
COMMENTS: (Cautions, etc.):		
COMMENTS: (Cautions, etc.):  ☐ Field Treatment: Preservatives added:	ded/Frozon:	property of the state of the st
Field Measurement:mR/hr //	Radionuclide(s), if known:	
<ul> <li>Rush/Priority (should be prearranged and have supervisory a</li> </ul>	approval)	
ANALYSIS REQUESTED (For questions, please call 510-620-2	911)	
☐ Gross Alpha ☐ Gross	Beta Gamma S	can
☐ Total Uranium ☐ Total B	Beta (LSC) NORM (G	
☐ Total Radium ☐ Tritium		mericium / Curium
☐ Radium-226 ☐ Carbor		
☐ Radium-228 ☐ Iodine-		
☐ Radon-222 ☐ Strontii		
Other (Specify); Nickel-		rainurri
CHAIN OF CUSTODY	00 G 11011-95	
1. 3/15/11 TOM HOOK		3/15/11
Date Name (Print)		Date
D146 169E	Je wiford	
Time Custody Received Organization	Signature //	Time Custody Released
Date Name (Print)		Date
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Time Custody Received Organization 3.116111 A TAIN	Signature	Time Custody Released
Date Name (Print)		Date
11:30 DWRIB	Ancor Tax	Date
Time Custody Received —Organization	Signature	Time Custody Released
ABORATORY REMARKS (Leave Blank)	TORREST TO THE REAL PROPERTY OF THE PERTY OF	
A. Condition at Time of Receipt:		
☐ Acceptable ☐ Broken Container ☐ Holding Time Exceeded ☐ Sample Not Cooled	Leaked in Transit	☐ Improper Container
	Insufficient Sample	
3. Preservatives/Carriers:  □ Added While Sampling □ Added in Laboratory	D Not Added	D Not Applicable



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# Governor

# FINAL Analysis Results Report for Task ID. N11-0275

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 07/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 03/15/2011 07:46 Date/Time Received: 03/16/2011 11:30

Site Name: Diablo Canyon NPP

Source Name: DCNPP / March 2011

R Number: R91029

Sample Type: Drinkingwater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0275-001	Bio Lab Sink	EPA 906.0	Tritium	-26.6 <b>±</b> 170	293	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

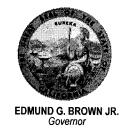
REQUEST FOR SAMPLE ANALYSIS (Radiocoemical)								
Sanitation and Radiation Laboratories Branch	Date Recei	viet	Lab No. (Leave Blank)					
850 Marina Bay Parkway, G164 Richmond, CA 94804	3 164	/ /**	NII-0275					
510-620-2911	Pate & Time Si 3/15/11 - D		Serial Number R 91029					
Collector Information	Reporting Informati	on						
Name: Ton Hook Dept./Branch: 20 20/5/6	Name:     Dept./Branch:     Name:     Name:							
Name: Tom Hook Dept./Branch: PO BOX 50 Address: Aviua Brach CA 93424	Address:							
AVILLA BRACH ON								
Telephone No.: /8052545 - 4409	Telephone No.; Billing Agency							
System Name / Facility: 810 LAB	Li Company	☐RHB ☐R	WQCB() DTSC					
Sampling Point (s):	D DWTPB	⊒ FDB □ D	WR 🖸 CDFG					
System No.:			fy)					
TYPE OF SAMPLE (Check all applicable boxes)								
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment Plant (V	2 to 1 to 2 to 2 to 2 to 2 to 3 to 3 to 3 to 3	m 🗆	Wastewater Pout Point of Use (POU)					
☐ Treated (circle one): Chlorinated / Chlorinated / Chlorina	e Dioxide / Ozonated / Pero	xizone / Fluorid	ated / Coagulated / pH Adjusted					
☐ Air Filters Date/Time	Seawater		Sludge (Semi-solid Samples)					
Finishing:	Milk		Soil/Sediment					
Starting:	Wipes	· · · · · · · · · · · · · · · · · · ·	Biota (Type):					
Net (M³)	Radon Canister		Other: TUTION SHAPLE					
☐ Air Charcoal Cartridge		श						
COMMENTS: (Cautions, etc.):								
☐ Field Treatment: Preservatives added:			er:					
☐ Field Measurement: mR/hr	Radionuclide(s), if							
☐ Rush/Priority (should be prearranged and have supervisory	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I KIIOWII.						
ANALYSIS REQUESTED (For questions, please call 510-620-								
Gross Alpha		☐ Gamma Sca						
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☐ Total Radium ☐ Tritiur	9 4		ericium / Curium					
☐ Radium-226 ☐ Carbo		☐ Isotopic Plut						
☐ Radium-228 ☐ Iodine		☐ Isotopic The						
		☐ Isotopic Ura						
Other (Specify);	l-63	☐ Iron-55						
CHAIN OF CUSTODY			_1,_1,					
1. 3/15/1/ 107/ HOOK Name (Print)	4 · 1./<	/	3/15/1/					
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2. Date Name (Print)			Date					
Time Custody Received Organization  3. 311611 A · TAN	Signature		Time Custody Released					
Date Name (Print)			Date					
Time Custody Received Organization	- Angela	Tan						
11:30	Signature		Time Custody Released					
LABORATORY REMARKS (Leave Blank)  VY   Condition at Time of Receipt:	I III GOLL		and the second section of the second section is a second section of the second section is a second section of					
A. Condition at Time of Receipt:  □ Acceptable □ Broke Container □ Holding Time Exceeded □ Sample Not Cooled	Leaked in Transit Insufficient Sample	j.	☐ Improper Container					
B. Preservatives/Carriers:	Mat Added							

Lab 803 (11/07)



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. N11-0276

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 05/26/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Site Name: Diablo Canvon NPP

R Number: R91427

Sample Type: Surface Water

Sample ID	Sampling Point	Method	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0276-001	Diablo Creek	EPA 901.1	K-40	-10.5 <b>±</b> 12.1	57.5	pCi/L

Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may be about 50 the sample.

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	SAMPLE MALYSIS (Ra		
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	Oate R		Lab No. (Leave Blank)
Richmond, CA 94804		16/11	NII-0276
510-620-2911	100	ne Sampled	Serial Number
	3/15/11-		R 91427
Collector Information	Reporting Inform	mation	
Name: Ton Hook	Name:		
Dept./Branch: P.D. Box 56	Dept./Branch:		
Dept./Branch: P.O. BOX 56 Address: AVILA BEACH, CA 93,424	Address:		
Telephone No.: (205) 545-4409	Telephone No.:		
Semple Information	Billing Agency		
System Name / Facility: DIABLO CREEK	D DWFOB()	□ RHB □ I	RWQCB() DTSC
Compling Doint (c):	DWTPB		OWR CDFG
552	<b>□</b> EMB	Other (Spec	ify)
System No.:			
TYPE OF SAMPLE (Check all applicable boxes)		·	<b>3.144</b>
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plan	Surface Wate Distribution Sy	r vetem [	Wastewater Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chl			
	Ornie Dioxide / Ozorialeu / F		
Air Filters Date/Time	Seawater Seawater	Ę	☐ Sludge (Semi-solid Samples)
Finishing:	Milk		☐ Soil/Sediment
Starting:	☐ Wipes	Ţ	Biota (Type):
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Air Charcoal Cartridge	tudon camo		
All Charcoal Califidge			<del> </del>
COMMENTS: (Cautions, etc.):			ner:
COMMENTS: (Cautions, etc.):  Preservatives added:	// ced/Frozen:	Ot	ner:
Tield Measurement:mR/hr			
Rush/Priority (should be prearranged and have supervi			
NALYSIS REQUESTED (For questions, please call 510-6			
	si.	D. Commo Co	
	Gross Beta	Gamma So	
	otal Beta (LSC)	` D`NORM (Ga	7 000
	ritium (³H)	· ·	nericium / Curium
☐ Radium-226	carbon-14 Dic-10	☐ Isotopic Pl	
Radium-228 🔲 k	odine-131	☐ Isotopic Th	orium
I Radon-222 □ S	strontium-89, 90	Isotopic Ur	anium
Other (Specify);	lickel-63	☐ Iron-55	
CHAIN OF CUSTODY			
3/15/11 Tenu HOOK			3/15/11
Date Name (Print),	* 1		Date
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		3/15/11	Time Custody Released
Date Name (Print)			Date
Time Custody Received Organization	Signature		Time Custody Released
· 21/14/11 A TTAN	Jigilatule		Time Custody Released
Date Name (Print)			Date
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Time Custody Received Organization	Signature) (1997)	-VYAVC	Time Custody Released
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A. Condition at Time of Receipt:	1.5L		The state of the s
☐ Acceptable ☐ Broken Confainer	' Leaked in Tra		☐ Improper Container
☐ Holding Time Exceeded ☐ Sample Not Coole	d 🔲 Insufficient Si	ample	
. Preservatives/Carriers:			
☐ Added White Sampling ☐ Added in Laborato	no D Not Added		C) Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. N11-0278

Analyst: Malkiat Gohal

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 07/07/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 03/15/2011 07:35 Date/Time Received: 03/16/2011 11:30

Source Name: DCNPP / March 2011

Site Name: Diablo Canyon NPP

Sample Type: Surface Water

R Number: R91030

**Units** Result ± CE MDA95 Sampling Point Method **Parameter** Sample ID 293 pCi/L -199 ± 166 N11-0278-001 Diablo Creek EPA 906.0 Tritium

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

Not Applicable

of California - Health and Welfare Agency REQUEST FOR SAMPLE ANALYSIS (Radiochemical) Lab No. (Leave Blank) Date Received Sanitation and Radiation Laboratories Branch N11-0218 850 Marina Bay Parkway, G164 3116141 Richmond, CA 94804 Serial Number Date & Time Sampled 510-620-2911 11- 0735 Reporting Information Collector Information Name: Name: TON Hook Dept./Branch: Dept./Branch: Po Box 56 Address: Avila Beach, CA 93424 Celephone No. Telephone No.: Billing Agency Sample Information DWFOB() RHB RWQCB (3) **D** DTSC System Name / Facility: ☐ CDFG ☐ FDB D DWR **DWTPB** Sampling Point (s): □ Other (Specify) ☐ EMB System No.: TYPE OF SAMPLE (Check all applicable boxes) Wastewater Surface Water Groundwater
Water Treatment Plant (WTP)
Distribution System Groundwater Drinking Water ☐ Point of Use (POU) Raw ☐ Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted ☐ Sludge (Şemi-solid Samples) Seawater Date/Time ☐ Air Filters □ Soil/Sediment Milk Finishing: ☐ Biota (Type): Wipes Starting: Other: Trifium San **Radon Canister** Net (M<sup>3</sup>) ☐ Air Charcoal Cartridge COMMENTS: (Cautions, etc.): Other: d/Frozen: Preservatives added: ☐ Field Treatment: Radionuclide(s), if known: mR/hr ☐ Field Measurement: Rush/Priority (should be prearranged and have supervisory approval) ANALYSIS REQUESTED (For questions, please call 510-620-2911) ☐ Gross Beta ☐ Gamma Scan Gross Alpha ■ NORM (Gamma) ☐ Total Beta (LSC) Total Uranium ☐ Isotopic Americium / Curium ☐ Tritium (<sup>3</sup>H)<sup>®</sup> □ Total Radium ☐ Isotopic Plutonium ☐ Carbon-14 □ Radium-226 Isotopic Thorium ☐ lodine-131 ☐ Radium-228 ☐ Isotopic Uranium ☐ Strontium-89, 90 ☐ Radon-222 ☐ Nickel-63 ☐ Iron-55 Other (Specify); CHAIN OF CUSTODY 700 Time Custody Released Organization Time Custody Received Name (Print) Date Time Custody Released Signature Time Custody Received Organization Name (Print) Time Custody Released Time Custody Received Organization LABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Improper Container Leaked in Transit Acceptable **Broken Container** Insufficient Sample Sample Not Cooled **Holding Time Exceeded** 

Not Added

Added in Laboratory

Preservatives/Carriers:

Added While Sampling



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0225

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/11/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Date/Time Collected: 02/24/2011 07:52 Date/Time Received: 02/28/2011 14:39

Site Name: Diablo Canyon NPP

Source Name: DCNPP / February 2011

**R Number:** R91490

Sample Type: Seawater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0225-001	Outfall Water	EPA 901.1	K-40	336 ± 17.3	59.1	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and

Lab 803 (11/07)

REQUEST FOR SAME	PLE ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blagk)
850 Marina Bay Parkway, G164 Richmond, CA 94804	2   2   2   3   1   1	NII-0225 11
<b>§</b> 10-620-2911	Date & Time Sampled	Serial Number
	2/24/11- D75Z	R 91490
Collector Information	Reporting Information	· · · · · · · · · · · · · · · · ·
Name: Ton Hook	Name:	
Name: Dept./Branch: F.O. Box 5to Address: AULA BEACH, C4 93424	Dept./Branch: Address:	
AULA BLACTICA 13424		
Telephone No.: (805) 545-4409	Telephone No.:	
Sample Information System Name / Facility: 1) / PD DUTFALL	Billing Agency	
Sampling Point (s):		☐ RWQCB() ☐ DTSC ☐ DWR ☐ CDFG
System Name / Facility: DCPP DUTFALL Sampling Point (s):  System No:  OUT	☐ EMB ☐ Other (S	
Cystem (40		
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (W)	Surface Water	☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WT☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine I	Distribution System	Point of Use (POU)
	Didude / Ozonated / Peroxizone / Fit	ioridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater	☐ Sludge (Semi-solid Samples)
Finishing:	<b>Ď</b> Milk	☐ Soil/Sediment
Starting:	<b>☐</b> Wipes	☐ Biota (Type):
Net (M³)	Radon Canister	Other:
☐ Air Charcoal Cartridge		
COMMENTS: (Continue ata):		
COMMENTS: (Cautions, etc.):  ☐ Field Treatment: Preservatives added:		
	- WALLEY	Other:
Field Measurement:mR/hr	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory ap		
ANALYSIS REQUESTED (For questions, please call 510-620-29	111	
☐ Gross Alpha ☐ Gross B	leta SC Gamma	Scan
☐ Total Uranium ☐ Total Be		
Total Radium Tritium	(³H) ☐ Isotopic	Americium / Curium
Radium-226 🔲 Carbon-	14 □ Isotopic	
Radium-228	100topic	Thorium
Radon-222 🔾 Strontium		Uranium
Other (Specify); Nickel-6	3	
CHAIN OF CUSTODY		
Date Nagle (Print)		2/24/11
-075kg P65F	1/2 Day	Date
Time Custody Received Organization	Signature	Time Custody Released
Date Name (Print)		
		Date
Time Custody Received Organization	Signature	Time Custody Released
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12 KD	Angeld Tax	Date
Time Custody Received Organization	Signature	Time Custody Released
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☐ Acceptable ☐ Broken Container ☐ Holding Time Exceeded ☐ Sample Not Cooled	Leaked in Transit Insufficient Sample	☐ Improper Container
Preservatives/Carriers:	- maunicion gampie	
☐ Added While Sampling ☐ Added in Laboratory	□ Not Added	D New York
		☐ Not Applicable



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0226

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 05/25/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook Site Name: Diablo Canyon NPP Date/Time Collected: 02/24/2011 07:52 Date/Time Received: 02/28/2011 14:41

Source Name: DCNPP / February 2011

R Number: R91437

Sample Type: Seawater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA 95	<u>Units</u>
N11-0226-001	Outfall Water	EPA 906.0	Tritium	80.3 ± 153	260	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

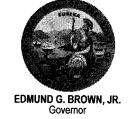
MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

the state of the s	SAMPLE AN	IALYSIS (Radio		
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164		Date Rece		N11-0226
Richmond, CA 94804		2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1		Serial Number
510-620-2911		2/24/11_	•	R 91437
Collector Information		eporting Informat	ion	No.
Name: Tour Hook Dept./Branch: 20 82 5to		ept./Branch:		
Dept./Branch: POBX 56 Address: AVIL BEAGU, CA GIVEY	1	dress),		
Telephone No.: 1305 345 440 9	The state of the s	lephone No.:_	*	
		lling Agency		
System Name / Facility: DCPP DUTY ALL Sampling Point (s):		DWF0B()	RHB R	WQCB() DTSC
Sampling Point (s):	19		G FDB G D	
System No.:	<b>!</b>	EMB	Other (Specif	ý)
TYPE OF SAMPLE (Check all applicable boxes)				
☐ Drinking Water ☐ Groundwater ☐ Water Treatment P	D MATEN	Surface Water		Wastewater Point of Use (POU)
☐ Raw ☐ Water Treatment P☐ Treated (circle one): Chlorinated / Chloraminated / C				
1 Air Filters Date/Time		Seawater		Sludge (Semi-solid Sample
Finishing:	b	Milk		Soil/Sediment
Starting:		Wipes		Biota (Type):
Net (M <sup>2</sup> )		Radon Canister		Other: TRITIUM BOTTLE
Air Charcoal Cartridge		, radon Camble	7	Canon. <u>Trefffort Dones.</u>
COMMENTS: (Cautions, etc.):			107 (Magae)	
Field Treatment: + Preservatives added:		d/Frozen:	Oth	er:
· · · · · · · · · · · · · · · · · · ·		Radionuclide(s),		SI.,
Field Measurement:mR Rush/Priority (should be prearranged and have supe		î	II KIIOWII.	
ANALYSIS REQUESTED (For questions, please call 51				
	Gross Betal		Gamma Sca	an
	Total Beta	SC)	NORM (Gar	
	Tritium (3H)			ericium / Curium
	Carbon-14		☐ Isotopic Plu	The second of th
- 1	lodine-131		☐ Isotopic The	
	Strontium-89,	90	☐ Isotopic Ura	
	Nickel-63		☐ Iron-55	
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☐ Holding Time Exceeded ☐ Sample Not Co	oled Q	Insufficient Samp	Mercinian in the second	
. Preservatives/Carriers:	atov D	Not Added		□ Not Applicable



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0187

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/11/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook
Site Name: Diablo Canvon NPP

Date/Time Collected: 02/16/2011 09:35 Date/Time Received: 02/28/2011 09:06

Source Name: DCNPP / February 2011

R Number: R91491

Sample Type: Surface Water

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0187-001	Diablo Creek	EPA 901.1	K-40	6.89 ± 17.0	79.4	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in action 70000. Standard Matter of the control of the particular radionuclide.

4	REQUEST FOR SAME			
Sanitation and Radiation		Date Rei	ceived	Lab No. (Leave Blank)
50 Marina Bay Parkway,	<b>3164</b>			N11-0187 1
Richmond, CA 94804 10-620-2911		Date & Time	Sampled	Serial Number
70 020 2011		2/16/11	0935	R 91491
ollector Information		Reporting Inform	ation	
ame: Tope Hook		Name:		
ept./Branch: Po Box	56	Dept./Branch: Address:		
ept./Branch: \$6 Box ddress: Avila Beach	ch, CA 93424	Audiess.		
elephone No.: 805-3	545-4409	Telephone No.:		
ample Information	- 11 1	Billing Agency		A STATE OF THE STA
ystem Name / Facility: ampling Point (s):	Diablo Creek	D DWFOB()		VQCB() DTSC
ramping i onit (s).	-/65	D DWTPB D EMB	☐ FDB ☐ DV ☐ Other (Specify	
ystem No.:	<i>-552</i>		- Carci (opcon)	, <u> </u>
YPE OF SAMPLE (Check	all applicable boxes)	*		
Drinking Water	Groundwater	Surface Water		Wastewater
Raw	☐ Water Treatment Plant (W	7 (8)		Point of Use (POU)
Treated (circle one): Cr	nlorinated / Chloraminated / Chlorine	Dioxide / Ozonated / Pe	roxizone / Fluorida	ted / Coagulated / pH Adjuste
Air Filters	Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:		Milk 1		Soil/Sediment
Starting:		<b>D</b> Wipes		Biota (Type):
Net (M³)		Radon Canister		Other:
Air Charcoal Cartridge		, i	•	
	<del>and a special and a special a</del>			
OMMENTS: (Cautions, e	tc.):			
Field Treatment: Pres	servatives added:	Ced/Frozen:	Other	
Field Measurement:	mR/hr	Radionuclide(s)	), if known:	
Rush/Priority (should be	prearranged and have supervisory a	opproval)		
NALYSIS REQUESTED (	For questions, please call 510-620-2	911)		
Gross Alpha	☐ Gross	Beta	Gamma Scar	
Total Uranium	☐ Total B		NORM (Gam	
Total Radium	☐ Tritium	<b>1</b>	☐ Isotopic Ame	
Radium=226	☐ Carbon	* ***	☐ Isotopic Pluto	the second of th
Radium-228	☐ lodine-		☐ Isotopic Thori	
Radon-222		um-89, 90	☐ Isotopic Uran	
Other (Specify);	□ Nickel-	140	☐ Iron-55	
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2/16/11	Name (Print)	111		2/16/11
Date	Name (Print)		/	Date (7700
Time Custody Received	Organization	Signature		Time Custody Released
			4	
Date	Name (Print)		Ų	Date
Time Custody Received	Organization	Signature	<u> </u>	Time Custody Released
Date	Name (Print)			Date
Time Custody Received	Organization	Signature		Time Custody Released
ABORATORY REMARKS	(Leave Blenk)			
Condition at Time of Rec	selpt:			
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☐ Holding Time Exceed	led D Sample Not Cooled O	्रा □ Insufficient Sam	ble	
Preservatives/Carriers:				
<ul> <li>Added While Samplir</li> </ul>	ng .	□ Not Added ::		☐ Not Applicable



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0188

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 05/25/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 02/16/2011 09:35 Date/Time Received: 02/28/2011 09:09

Site Name: Diablo Canvon NPP

Source Name: DCNPP / February 2011

R Number: R91499

Sample Type: Surface Water

Sample ID Sampling Point **Method Parameter** Result ± CE MDA95 Units N11-0188-001 Diablo Creek EPA 906.0 Tritium -63.5 ± 150 260 pCi/L

Precision criteria for these methods were determined to be acceptable.

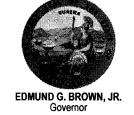
<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMP	LE ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804	Date Received 3	Lab No. (Leave Blank).  N11 - 0188
510-620-2911	Date & Time Sampled 2/6// 0975	R 91499
Collector Information Name: Tope Hook Dept./Branch: Po Box 56 Address: Avila Beach, CA 93424	Reporting/Information Name: Dept./Branch: Address:	
Telephone No.: 805 - 54 - 4404	Arelephone No.:	
Sample Information System Name / Facility: Sampling Point (s):  System No.:  552		RWQCB() DTSC DWR DCDFG ecify)
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTI)☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine D	P) Tur Distribution System	☐ Wastewater ☐ Point of Use (POU)
☐ Air Filters Date/Time		
Finishing:		☐ Sludge (Semi-solid Samples)
Starting:		☐ Soil/Sediment
Net (M³)		Biota (Type):
☐ Air Charcoal Cartridge	Radon Canister	Other Triting Sample
COMMENTS: (Cautions, etc.):  Field Treatment: Preservatives added:mR/hr  Rush/Priority (should be prearranged and have supervisory app	Radionuclide(s), if known:	ther:
ANALYSIS REQUESTED (For questions, please call 510-620-291	24-34	
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) B iii eee		
louine-13	- Joseph III	
		anium
J Other (Specify); Nickel-63	☐ Iron-55	
Date   Mame (Print) DATE	- Alla .	Date / 700
Time Custody Received Organization  Date Name (Print)	Signature	Time Custody Released
Time Custody Received Organization	Signature	Date
Date Name (Print)		Time Custody Released
Time Custody Received Organization	Signature	Time Custody Released
Preservatives/Carriers:	Leaked in Transit Insufficient Sample	□ : Improper Container
Added While Sampling	☐ Not Added	☐ Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. N11-0189

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/11/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Site Name: Diablo Canyon NPP

Source Name: DCNPP / February 2011

R Number: R90934

Sample Type: Drinkingwater

**Sampling Point** Sample ID Method **Parameter** Result ± CE MDA95 Units N11-0189-001 Bio Lab Sink EPA 901.1 K-40 -39.6 ± 14.7 72.0 pCi/L

Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

State of California - Health and Welfare Agency

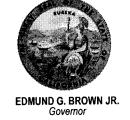
	REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laborate	ories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804			MI-0189
510-620-2911		Pate & Time Sampled	Serial Number
		2/14/11 0945	R 90934
Collector Information		Reporting Information Name:	
Name: Tope Hook		Pept./Branch:	
Name: Tore Hook Dept./Branch: Po Box 56 Address: Aula Beach, C	A 93424	Address:	
Telephone No.: 805-545-4		Telephone No.:	
OI- Information		Billing Agency	
System Name / Facility: 1510	LAB	D DWFOB() RHB	RWQCB() DTSC
System Name / Facility: Sampling Point (s):		Approximately and the second s	DWR CDFG
System No.:	$\omega_L$	EMB C Other (Sp	pecify)
TYPE OF SAMPLE (Check all appli	icable boxes)		
☑ Drinking Water □	) Groundwater	Surface Water	☐ Wastewater
☐ Raw ☐	Water Treatment Plant (WTP)	- 1 Table 1	Point of Use (POU)
☐ Treated (circle one): Chlorinated	1 / Chloraminated / Chlorine Diox	ide / Ozonated / Peroxizone / Hid	oridated / Coagulated / pri Adjusted
☐ Air Filters	Date/Time	Seawater	☐ Sludge (Semi-solid Samples)
Finishing:		Milk	☐ Soil/Sediment
Starting:		Wipes	☐ Biota (Type):
Net (M <sup>3</sup> )		Radon Canister	Other:
☐ Air Charcoal Cartridge			
COMMENTS: (Cautions, etc.):	s added		Other:
☐ Field Treatment: Preservative:	s added:	ped/Frozen: (	Junei:
☐ Field Measurement:		Radionuclide(s), if known:	
☐ Rush/Priority (should be prearrai	nged and have supervisory appro	oyal)	
ANALYSIS REQUESTED (For ques	stions, please call 510-620-2911)		
☐ Gross Alpha	☐ Gross Beta	*	
☐ Total Uranium	☐ Total Beta		
☐ Total Radium	☐ Tritium ( <sup>3</sup> H)	T 198	Americium / Curium
☐ Radium-226	☐ Carbon-14	of	
☐ Radium-228	☐ lodine-131	April 1	
☐ Radon-222	☐ Strontium-8		Uranium
Other (Specify);	☐ Nickel-63	☐ Iron-55	
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Holding Time Exceeded	☐ Sample Not Cooled	D Insufficient Sample	* * * * * * * * * * * * * * * * * * *
B. Preservatives/Carriers:	☐ Added in Laboratory	D Not Added	□ Not Applicable
I Anned While Samhling	Added in Laboratory	L4 NOLACCEO	U NOI ADDICADIE

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### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0190

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 05/25/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 02/16/2011 09:45 Date/Time Received: 02/28/2011 09:14

Site Name: Diablo Canyon NPP

Source Name: DCNPP / February 2011

R Number: R91496

Sample Type: Drinkingwater

Sampling Point

**Parameter** 

Result ± CE

MDA95

**Units** 

**Method** Sample ID 260 pCi/L EPA 906.0 Tritium -93.3 ± 149 Bio Lab Sink N11-0190-001

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical) Lab No. (Leave Blank) Date Received Sanitation and Radiation Laboratories Branch N11-0190 850 Marina Bay Parkway, G164 Richmond, CA 94804 Date & Time Sampled Serial Number 510-620-2911 91496 Reporting Information Collector Information Name: Name: Tom Hook Dept./Branch: Dept./Branch: PA Box 56 Address: Address: Avila Beach Telephone No.: Telephone No. 855-54 Billing Agency Sample Information ☐ RWQCB() D DTSC DWFOB() ☐ RHB System Name / Facility: DWR ☐ CDFG **DWTPB □**∗FDB Sampling Point (s): Other (Specify) ☐ EMB System No.: TYPE OF SAMPLE (Check all applicable boxes) ☐ Groundwater ☐ Water Treatment Plant (WTP) ☐ Distribution System ☐ Wastewater Drinking Water Point of Use (POU) Raw Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted ☐ Sludge (Semi-solid Samples) Date/Time Seawater Air Filters □ Soil/Sediment Milk Finishing: ☐ Biota (Type): Wipes Starting: 2 Other Triting Sample Radon Canister Net (M3) □ Air Charcoal Cartridge COMMENTS: (Cautions, etc.): ed/Frozen: Other: ☐ Field Treatment: Preservatives added: Radionuclide(s), if known: mR/hr ☐ Field Measurement: Rush/Priority (should be prearranged and have supervisory approgal) ANALYSIS REQUESTED (For questions, please call 510-620-2911) ☐ Gamma Scan ☐ Gross Beta ☐ Gross Alpha ☐ NORM (Gamma) ☐ Total Beta (LSC) Total Uranium Tritium (3H) ☐ Isotopic Americium / Curium □ Total Radium ☐ Isotopic Plutonium ☐ Carbon-14 □ Radium-226 ☐ lodine-131 Isotopic Thorium ☐ Radium-228 Isotopic Uranium ☐ Strontium-89, 90 ☐ Radon-222 ☐ Iron-55 ☐ Nickel-63 Other (Specify); CHAIN OF CUSTODY gnatur Time Custody Received Organization Name (Print) Date Time Custody Released Organization Signature Time Custody Received 3. Date Date Name (Print) Time Custody Released Signature Time Custody Received Organization LABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Improper Container Leaked in Transit a **Broken Container** Acceptable Insufficient Sample Sample Not Cooled Holding Time Exceeded 0 Preservatives/Carriers: **Not Added** Not Applicable Added in Laboratory \* **广** Added While Sampling



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0161

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/11/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Date/Time Collected: 01/25/2011 07:45 Date/Time Received: 02/25/2011 10:29

Site Name: Diablo Canyon NPP

Source Name: DCNPP / January 2011

R Number: R91514

Sample Type: Seawater

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0161-001
 Outfall Water
 EPA 901.1
 K-40
 344 ± 23.5
 87.7
 pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

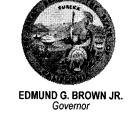
CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

		Lab No. (Leave Blank)
		N10-0161
, Date (	Time Sampled	Serial Number
1/25/1	1-0745	R 91514
Reporting In	formation	
Name:		
Address:		
/		
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CO 111 CD (		VQCB() DTSC
☐ EMB		
Surface W		Wastewater Point of Use (POU)
/ Chlorine Dioxide / Ozonate	1 / Peroxizone / Fluorida	rollit of Use (PUU) ted / Coagulated / pH Adjusts
		<del>, and the second of the secon</del>
A N		Sludge (Semi-solid Samples)
		Soil/Sediment
		Biota (Type):
Radon Car	nister 🔲	Other:
ced/Frozen:	Othe	en filosofia de la compania de la c La compania de la co
R/hr Radionucli	de(s) if known	•
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<b>1</b>	N. Commo Coor	
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, Pag 3		
481		
☐ Strontium-89, 90		
☐ Nickel-63		
	<i>*</i>	Inchi
	1/1/1	Date / Co///
Signature	100	Time Custody Released
		Date
<b>Signature</b>		Time Custody Released
	d	Date
Signature		Time Custody Released
ALMO I TO	$\mathbf{v}_{i}^{T}\mathbf{w}_{i}^{T}$	
VI LINEX		
	Janes of Commission of the	
iner 🔘 "Leaked in "i		☐ Improper Container
iner 🔲 Leaked in 1		☐ Improper Container
	Reporting In Name: Dept./Branch Address: Telephone N. Billing Agen DWFOB (DWTPB DEMB  Plant (WTP) Distribution Chlorine Dioxide / Ozonated Seawater Milk Wipes Radon Can  Ced/Frozen: R/hr Dervisory approval Control	Telephone No.:    Billing Agency   DWFOB ( ) RHB RV   DWTPB DWTPB DOTHER (Specify of PDB DWTPB DISTRIBUTION SYSTEM   Chlorine Dioxide / Ozonated / Peroxizone / Fluorida   Seawater Milk DWTPS Radon Canister   Other Rhr DRadionuclide(s), if known: Dervisory approval   Signature   Sig



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



## FINAL Analysis Results Report for Task ID. N11-0162

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 05/25/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

01

Date/Time Collected: 22/25/2011 07:45 Date/Time Received: 02/25/2011 10:32

Source Name: DCNPP / January 2011

Site Name: Diablo Canyon NPP
R Number: R91433

Sample Type: Seawater

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N11-0162-001
 Outfall Water
 EPA 906.0
 Tritium
 -41.1 ± 150
 260
 pCi/L

Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

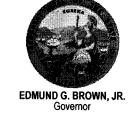
<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE	NALYSIS (Radiochemical)	화가장 등 사람들이 하면 존심하다 하는 때까?
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804	Date Received	Lab No. (Leaye Blank)  N11 - 6162
510-620-2911	Date & Time Sampled	Serial Number R 91433
Collector Information Name: Dept./Branch: Address: Au. Au. Au. CA 93424 Telephone No.: (XD) 345 - 4405	Reporting Information Name: Dept/Branch: ddress:	
Sample Information System Name / Facility: DCP DUTFALL Sampling Point (s):  System No.:		RWQCB() DTSC DWR DCDFG Sify)
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dio	Distribution System	☐ Wastewater ☐ Point of Use (POU) dated / Coagulated / pH Adjusted
☐ Air Filters , Date/Time Finishing:	AX )	☐ Sludge (Semi-solid Samples)☐ Soil/Sediment
Starting:		☐ Biota (Type):
Net (M³)		Other: TRATIM SAMPLE
☐ Air Charcoal Cartridge	A RAGOTI Cattistel	Stoller. MATHIN SAMUE
COMMENTS: (Cautions, etc.):		
	ced/Frozen: Ot	her:
☐ Field Measurement: mR/hr	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory appr	H\$ 9	
	The state of the s	
ANALYSIS REQUESTED (For questions, please call 510-620-2911		
☐ Gross Alpha ☐ Gross Bet	a Gamma So	an
☐ Total Uranium ☐ Total Beta		ımma)
☐ Total Radium		nericium / Curium
☐ Radium-226 ☐ Carbon-14	☐ Isotopic Pl	utonium
☐ Radium-228 ☐ Iodine-131	- Marie	orium
☐ Radon-222 ☐ Strontium-	89, 90 🔲 Isotopic Ur	anium
Other (Specify); Nickel-63	□ Iron-55	
1. 125/11 Town Hook Name (Brint)	John Hal	1/25/11 Date
2. Date Name (Print)	Signakura	Time Custody Released Date
3. Time Custody Received Organization Name (Print)	Signature	Time Custody Released  Date
Time Custody Received Organization	Signature 2012	Time Custody Released
LABORATORY REMARKS (Leave Blank)  A. Condition at Time of Receipt:	Leaked in Transit Insufficient Sample	☐ Improper Container
Added While Sampling	Not Added	Not Applicable



# **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0163

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/11/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

R Number: R91425

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook Site Name: Diablo Canyon NPP

Source Name: DCNPP / January 2011

Sample Type: Surface Water

Date/Time Collected: 01/19/2011 08:25 Date/Time Received: 02/25/2011 10:35

Sample ID

Sampling Point

**Method** 

**Parameter** 

Result ± CE

MDA95

Units

293 ± 14.9

47.9

N11-0163-001

Diablo Creek

EPA 901.1

K-40

pCi/L

1. Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

		LE ANALYSIS (Radiochemical	
Sanitation and Radiation 850 Marina Bay Parkway		Date Received	Lab No. (Leave Blank)
Richmond, CA 94804			N11-0163
510-620-2911		Date & Time Sampled	S R 91425
Collector Information		Reporting Information	<u> </u>
Name:	HOOK	Name:	
Dept./Branch:	3N 56	Dept./Branch:	
AVILA	1 BEACH, CA 93424	Address:	
Telephone No.: /XDC)	HOOK BOX 500 1 BEACH, CA 93424 SUS-441)9	Telephone No.:	
Sample Information		Billing Agency	
System Name / Facility:	DIABLO CAFELL	□ DWFOB() □ RHB	☐ RWQCB() ☐ DTSC
Sampling Point (s):	552	D DWTPB D FDB	□ DWR □ CDFG
System No.:	572	☐ EMB ☐ Other (	Specify)
YPE OF SAMPLE (Chec	k all applicable boxes)		
Drinking Water	□ Groundwater	Surface Water	☐ Wastewater
Raw	☐ Water Treatment Plant (WT	P) (a) Distribution System	Point of Use (POU)
I Treated (circle one): C	hlorinated / Chloraminated / Chlorine E	Dioxide / Ozonated / Peroxizone / F	luoridated / Coagulated / pH Adjuste
Air Filters	Date/Time	Seawater	☐ Sludge (Semi-solid Samples)
Finishing:		Milk	☐ Soil/Sediment
Starting:		Wipes	□ Biota (Type):
Net (M <sup>3</sup> )		Radon Canister	Other:
Air Charcoal Cartridge		Nadoli Callistei	U Other.
OMMENTS: (Cautions,			And the second s
Field Treatment: Pre	servatives added:	// led/Frozen:	Other:
Field Measurement:	mR/hr	Radionuclide(s), if known:	
Rush/Priority (should be	e prearranged and have supervisory ap	pprovial)	
NALYSIS REQUESTED	(For questions, please call 510-620-29	11)	
Gross Alpha	☐ Gross B	eta 🖟 💢 Gamm	a Scan
Total Uranium	□ Total Be	ta (LSC) NORM	
Total Radium	☐ Tritium (	a. `ii	c Americium / Curium
Radjum-226	☐ Carbon-		c Plutonium
Radium-228	☐ lodine-1		
Radon-222	☐ Strontiur		
Other (Specify);	□ Nickel-6		
IAIN OF CUSTODY		-	
1/19/11	Tour HOOK		1/19/11
Date <sup>1</sup> 1	Name (Print)		Date
Time Custody Received	Organization	Signature	
Date		- Signature	Time Custody Released
	Name (Print)	<ul> <li>Weight in the second of the sec</li></ul>	Date
Time Custody Received	Organization	Signature	Time Custody Released
Date	Name (Print)		Date
Time Custody Received	Organization	Signature	Time Custody Released
BORATORY REMARKS Condition at Time of Rec Condition at Time of Rec Condition at Time of Rec Condition at Time Exceed	celpt: 0.01 M K/	hr:	☐ Improper Container
Preservatives/Carriers:  Added While Samplin		Ch Not Added	□ Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



### FINAL Analysis Results Report for Task ID. N11-0164

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 05/25/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

**Site and Sample Information** 

Collector's Name: Tom Hook

Site Name: Diablo Canyon NPP

Source Name: Diablo Creek

R Number: R91411

Sample Type: Surface Water

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0164-001	Diablo Creek	EPA 906.0	Tritium	-22.4 ± 151	260	pCi/L

Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

California Department of Public Health REQUEST FOR SAMPLE ANALYSIS (Radiochemical) Lab No. (Leave Blank) Date Received Sanitation and Radiation Laboratories Branch N11-0164 850 Marina Bay Parkway, G164 Richmond, CA 94804 Serial Number Dater& Time Sampled 510-620-2911 Reporting Information Collector Information Name: Name: Dept:/Branch: Dept./Branch: Address: Address: Telephone No.: Telephone No.: Billing Agency Sample Information DTSC DWFOB() ☐ RHB RWQCB() System Name / Facility: ☐ DWR ☐ CDFG DWTPB ☐ FDB Sampling Point (s): Other (Specify) ☐ EMB System No.: TYPE OF SAMPLE (Check all applicable boxes) Surface Water Distribution System Wastewater □ Drinking Water□ Raw □ Groundwater ☐ Point of Use (POU) ■ Water Treatment Plant (WTP) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted ☐ Sludge (Semi-solid Samples) Date/Time Seawater ☐ Air Filters □ Soil/Sediment Milk Finishing: ☐ Biota (Type): Wipes Starting: Other: TATTUM SAMPLE **Radon Canister** Net (M3) ☐ Air Charcoal Cartridge **COMMENTS:** (Cautions, etc.): ed/Frozen: Other: Preservatives added: ☐ Field Treatment: Radionuclide(s), if known: mR/hr ☐ Field Measurement: Rush/Priority (should be prearranged and have supervisory approal) ANALYSIS REQUESTED (For questions, please call 510-620-2911) ☐ Gamma Scan ☐ Gross Beta Gross Alpha ☐ NORM (Gamma) ☐ Total Beta (LSC) ☐ Total Uranium ☐ Tritium (³H) ☐ Isotopic Americium / Curium ☐ Total Radium ☐ Isotopic Plutonium ☐ Carbon-14 Radium-226 ☐ lodine-131 ☐ Isotopic Thorium ☐ Radium-228 ☐ Isotopic Uranium ☐ Strontium-89, 90 ☐ Radon-222 D Niekol 63 ☐ Iron-55

1	Other (Specify),	G NORE-00	
<b>CH</b> 1.	AIN OF CUSTODY  1/19/11  Date  0425	Name (Print)	1 19 11 Date 700
2.	Time Custody Received	Organization Signal Page 1	Time Costody Released
۲.	Date	Name (Print)	Date
3.	Time Custody Received	Organization Signature	Time Custody Released
<b>V</b> .	Date	Name (Print)	Date
	Time Custody Received	Organization *Signature	Time Custody Released

LABORATORY REMARKS (Leave Blank) **Condition at Time of Receipt:** 

- - Acceptable

  - Holding Time Exceeded
- Preservatives/Carriers: Added While Sampling
- D Added in Laboratory

a

**Broken Container** 

Sample Not Cooled

- Leaked in Transit
- o Insufficient Sample
  - **Not Added**  $\Box$

- Improper Container
- Not Applicable



### **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



#### Gover

### FINAL Analysis Results Report for Task ID. N11-0165

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/11/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 01/19/2011 08:36 Date/Time Received: 02/25/2011 10:44

Site Name: Diablo Canyon NPP

Source Name: DCNPP / January 2011

R Number: R91430

Sample Type: Drinkingwater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N11-0165-001	Bio Lab Sink	EPA 901.1	K-40	-10.8 ± 12.1	57.8	pCi/L

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

<sup>2.</sup> CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

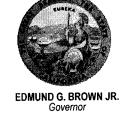
<sup>3.</sup> MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	REQUEST FOR SAMP			
Sanitation and Radiation L		Date K	eceived	Lab No. (Leave Blank)
50 Marina Bay Parkway, G	164			N11-065
Richmond, CA 94804 10-620-2911			ne Sampled	Serial Number
10-020-2911		1/19/11	0836	R 91430
ollector Information		Reporting Inform	nation	
lame: ToH Ho	bok 1	Name:		
ept./Branch: DO BUX	156 - 001111	Dept./Branch: Address:		
ddress: AVILA E	156 156 156 156 156 156 167 167 167 167 167 167 167 167 167 16	AUGIOSS.		
elephone No.: (205)	245-4409	Telephone No.:		
Sample Information		Billing Agency		D 5700
System Name / Facility:	BIO LAB	D DWFOB ( )		VQCB() DTSC VR DCDFG
Sampling Point (s):	Can have the same	D DWTPB D EMB	☐ FDB ☐ DW ☐ Other (Specify)	T T T
System No.:	DW1	LIVIO	- Chickeler	1
YPE OF SAMPLE (Check a	all applicable boxes)			
C Drinking Water	☐ Groundwater	Surface Water	r 📙	Wastewater
⊒ Raw	☐ Water Treatment Plant (WT	P) Distribution Sy		Point of Use (POU)
Treated (circle one): Chl	lorinated / Chloraminated / Chlorine I	Dioxide / Ozonated / F	'eroxizone / Fluoridai	led / Coagulated / pri Aujusted
Air Filters	Date/Time	☐ Seawater		Sludge (Semi-solid Samples)
Finishing:		. □ Milk	La constant de la con	Soil/Sediment
· · · · · · · · · · · · · · · · · · ·		_ Wipes	A STRANSPORT	Biota (Type):
Net (M <sup>3</sup> )		Radon Canist		Other:
☐ Air Charcoal Cartridge				
All Charcoar Caranage				
COMMENTS: (Cautions, et				The second secon
Field Treatment: Prese		ced/Frozen:		r
☐ Field Measurement:	mR/hr		(s), if known:	
☐ Rush/Priority (should be	prearranged and have supervisory a	(ppreval)		
ANALYSIS REQUESTED (F	For questions, please call 510-620-2	911	12 Marie Carlo	
☐ Gross Alpha	☐ Gross	74	Gamma Scar	
☐ Total Uranium	☐ Total B	<b>76</b>	NORM (Gam	
☐ Total Radium	☐ Tritium		☐ Isotopic Ame	
☐ Radium-226	☐ Carbor	- T	☐ Isotopic Pluto	
☐ Radium-228	☐ lodine-	i i	☐ Isotopic Thor	
☐ Radon-222		ium-89, 90	☐ Isotopic Uran	
☐ Radon-222 ☐ Other (Specify);	Nickel-		☐ Iron-55	
1				
CHAIN OF CUSTODY	-Tan- work	11.6		1/19/11
Date	Name (Print)	1	1/1	Date
0836	Plack	- House	Hook	7700 Time Custody Released
Time Custody Received	Organization	Signature		Time Custouy Noisasou
2. Date	Name (Print)	- 100 mg 1		Date
				Time Custody Released
Time Custody Received 3.	Organization	Signature		Tillie Gustouy molecou
Date	Name (Print)		The same	Date
Time Custody Received	Organization	Signature		Time Custody Released
		asani su digala aya 1947-164 ayan 196		
LABORATORY REMARKS		u ho		
<ul> <li>A. Condition at Time of Rec</li> <li>Acceptable</li> </ul>	celpt:	- D Leaked in Tr		☐ Improper Container
☐ Holding Time Exceed		☐ Insufficient S		
B. Preservatives/Carriers:				
D.   1939  1941			AND THE PARTY OF THE PROPERTY	D Not Applicable



## **Drinking Water and Radiation Laboratory Branch**

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



# FINAL Analysis Results Report for Task ID. N11-0166

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 05/25/2011

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

**Zip Code:** 95814-5006 **Phone:** 916-440-7940

Site and Sample Information

Collector's Name: Tom Hook

Date/Time Collected: 01/19/2011 08:36 Date/Time Received: 02/25/2011 10:47

Site Name: Diablo Canyon NPP

Source Name: DCNPP / January 2011

R Number: R91434

Sample Type: Drinkingwater

Result ± CE MDA95 **Units** Sampling Point Method **Parameter** Sample ID 260 pCi/L -70.9 ± 150 N11-0166-001 Bio Lab Sink EPA 906.0 Tritium

<sup>1.</sup> Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

			NALYSIS (Radiocne	emical)	
Sanitation and Radiation I		h de la	Date Received		Lab No. (Leave Blank)
850 Marina Bay Parkway, G Richmond, CA 94804	лоч				11-0166
510-620-2911			Date & Time Sam	pied	Serial Number
			1/19/11 082	56	R 91434
Collector Information			Reporting Information		
Name: Toxa	HOOK		Name: Dept./Branch:		
Dept./Branch: POB	N54	92112	Address:		
Address: Avice	OX STORACH, CA	17744			
Telephone No.; \$/205	W- 4400	The state of the s	celephone No.:		
Sample Information		_	Billing Agency		
System Name / Facility:	BIO WAR	5		RHB RWQ	
Sampling Point (s):	) with			FDB 🛄 DWR Other (Specify) _	☐ CDFG
System No.:	DW1		EMB U	Other (Specify) _	
TYPE OF SAMPLE (Check	all applicable boxes	)			
	☐ Groundwa		Surface Water	□ w	astewater
Drinking Water Raw	☐ Water Treat	atment Plant (WTP)	Distribution System		int of Use (POU)
☐ Treated (circle one): Ch	lorinated / Chlorami	nated / Chlorine Dioxi	de / Ozonated / Peroxiz	zone / Fluoridated	/ Coagulated / pH Adjusted
☐ Air Filters			Seawater		udge (Semi-solid Samples)
			D Milk		il/Sediment
Finishing:			Wipes		ota (Type):
Starting:			*		
Net (M <sup>3</sup> )			Radon Canister	u o	her: Trifium Sample
☐ Air Charcoal Cartridge					
COMMENTS: (Cautions, e	tc.):				
	servatives added:		ced/Frozen:	Other:	
☐ Field Measurement:			Radionuclide(s), if I	(nown:	
Rush/Priority (should be		<del></del>	<b>5</b>		
			5		
ANALYSIS REQUESTED (	For questions, pleas		· · · · · · · · · · · · · · · · · · ·	Gamma Scan	
Gross Alpha	and the second second	☐ Gross Beta	<i>§</i>		
☐ Total Uranium		☐ Total Beta	( <u>-</u>	NORM (Gamma	
☐ Total Radium		Tritium ( <sup>3</sup> H)	No. 1 to the contract of the c		
☐ Radium-226		☐ Carbon-14	<u> </u>	Isotopic Plutonii	
Radium-228		☐ lodine-131	The state of the s	Isotopic Thoriun	
☐ Radon-222		☐ Strontium-8	. 6	Isotopic Uraniur	n ·
Other (Specify),		☐ Nickel-63		Iron-55	
CHAIN OF, CUSTODY					1.7.
11/19/11	TOM 4001	<u> </u>	1		7/19/11 Date
Date 182/	Name (Print)		Marila		7700
Time Custody Received	Organization	1 2 )	Signature //		Time Custody Released
2.			<b>i.</b> 7**** T		Date
Date	Name (Print)				Date
Time Custody Received	Organization		Signature		Time Custody Released
3.					Date
Date	Name (Print)				Date
Time Custody Received	Organization		Signature		Time Custody Released
LABORATORY REMARKS					
A. Condition at Time of Re-	celpt:	en Container	D. Leaked in Transit		Improper Container
<ul><li>Acceptable</li><li>Holding Time Exceed</li></ul>		en Container	D Insufficient Sample		i impropor opiniamei
B. Preservatives/Carriers:			A		